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ABSTRACT

This document contains action plans for four states (Colorado, Indiana, Mississippi, and Missouri) involved in the Jobs for the Future program designed to enhance states' ability to handle economic change. The first section, "A Call to Action," discusses what Colorado's public and private sectors must consider doing to meet the challenges that lie ahead and why. It focuses primarily on employees and employers and describes an education and training system that supports the lifelong learning needed to ensure a competitive future. Section 2, entitled "Executive Report of the Jobs for Indiana's Future Program," describes the context for change in Indiana, explores job skills workers need, reviews the vocational learning system, and proposes an action plan with six strategies for successes. The third section consists of two papers on the situation in Mississippi. The first, called "Seizing the Future: A Commitment to Competitiveness," presents strategic recommendations for steps Mississippi needs to take to create a rising standard of living for all its citizens. The second paper, "Mississippi: A Globally Competitive People," describes current efforts to develop the skills and talents of the people of the state and suggests strategies to increase and improve these efforts. It looks at each target population, outlines the magnitude of need and key issues to address, summarizes current Mississippi practices to assist each group, and discusses best practices and recommendations for future action. The final section, called "The Missouri Challenge," analyzes Missouri's current competitive posture; assesses the problems and promise for Missouri businesses, workers, and government to compete; and offers an action plan for a future in which workers will have better skills. (YLB)

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VOLUME III

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STATE PROGRAM REPORTS OF JOBS FOR THE FUTURE

PRESENTED TO THE UNITED STATES DEPARTMENT OF LABOR BY

Jobs for the Future, Inc.
48 Grove Street
Somerville, Massachusetts 02144

JANUARY 1991

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Jobs for Colorado's Future

A Call to Action

The Jobs for Colorado's Future Action Plan

April, 1990

Prepared by:
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Jobs for Colorado's Future Action Plan

Executive Summary

The only security for Colorado in today's world is for every Coloradan to be able and willing to understand and adapt to change. For Colorado to be competitive, the state must act now to assure that every region, every community and every person be prepared to compete in the ever-demanding, ever-changing, global economy.

This past year Jobs for Colorado's Future (JCF) examined the changes in Colorado's economy, the effects they are having on our economic development, and what must be done to assure a competitive future. Our conclusion is that Colorado is at a crossroads. A crossroads where certain actions could prepare us to meet the future or where failure to act could perpetuate trends that threaten our basic economic security.

Colorado is poised to take advantage of a world economy that relies more than ever before on intelligence, creativity, and innovation. On the whole, Colorado still has a better educated workforce than the rest of the country. Colorado has much stronger growth in high-technology industries—particularly high-tech manufacturing and communications—than the nation. Colorado is uniquely situated to become the "service capital" of the West—the communications, transportation, and financial hub of the Rockies. The state is also growing as a tourist and retirement destination. Colorado has a wonderful climate, natural beauty, strong communities, and quality of life that makes it an attractive place to live and do business.

Three Mismatches

To meet its promise, Colorado must deal with three mismatches between what Colorado needs for a competitive economy and what Colorado currently has.

I. **The Regional Mismatch:** Colorado's regions differ profoundly in composition, personal income, skill level, culture, and outlook. Comments by Colorado citizens in the JCF regional meetings and focus groups emphasized these differences.

   To guarantee all Coloradans' participation in the future, we must address the growing disparities between our regions. In 1986, the average earnings in the Front Range increased to 34 percent higher than the rest of the state. And JCF heard concern about region inequities in educational and job opportunities.

II. **The Skills Mismatch:** To compete in an international economy, many Colorado firms must invest in new technologies, new production methods and new systems of business organization. These changes require new and broader skills from workers.

Employers told JCF that many of today's workers do not have the skills needed, and workers told JCF that they often cannot get the training they need. This situation is one aspect of an emerging skills gap which is further complicated by shrinking number of middle income occupations. As a consequence, income levels of Colorado families are diverging with the more educated households doing much better than the rest.

III. **The Learning System Mismatch:** Th new economy demands continuous world-class education, for all ages, in a learning system provided by the public and private sectors. Colorado's learning system is not meeting this criteria and consequently, it is not bridging the growing skills mismatch.

Today, people find that adult education resources are not always allocated according to need. Many of Colorado's future workers—often women and minorities—do not have the opportunities to obtain and to develop the skills they need for work. The K-12 system is not preparing students with the kind of skills that they need. And small business employees are often left out of continuing education opportunities that employees of large companies receive.

Colorado cannot afford to ignore these mismatches. Addressing them requires swift and bold action from everyone. JCF proposes that Colorado act now to develop the best educated workforce of any state in the nation, or any country in the world, through initiating three Action Agendas to eliminate these mismatches. These agendas include:

Action Agenda I.

The Regional Mismatch: *Develop and implement community action plans for human resource development.*

Action Agenda II.

The Skills Mismatch: *Bridge the skills gap by targeting training for adult workers, the economically disadvantaged, and small business employees.*

Action Agenda III.

The Learning System Mismatch: *Create an integrated, flexible lifelong learning system that meets high standards of excellence.*

These three action agendas provide the long-term action priorities for Colorado's workforce development strategy. The table following highlights the action initiatives JCF recommends to carry out these agendas, and identifies which sectors must take the responsibility to see the initiative through. The square bulleted (■) initiatives represent the initiatives that JCF consider priorities.

Jobs for Colorado's Future Initiatives

	State	Business	Education & Training	Communities
■ **Implement a Communications Campaign to all Coloradans on the workforce development challenges and the Jobs for Colorado's Future recommended Action Agendas.**	✓	✓	✓	✓
Action Agenda I: Develop and implement community action plans for human resource development.				
■ **Develop Local Action Plans.**				✓
• Initiate regional collaboration and resource pooling.				✓
■ **Develop local Human Development Strategy Boards.**				✓
• Make community-based human resource development an explicit strategy of state economic development policy.	✓			
• Encourage local innovation in education and training.	✓			
Action Agenda II: Bridge the skills gap by targeting training for adult workers, the economically disadvantaged, and small business employees.				
Adults:				
• Recognize and incorporate the new basic skills in education and training curricula, from cradle to grave.		✓	✓	✓
• Establish sustained linkages between education and training and the business community.		✓	✓	
■ **Accommodate the needs of the adult learner.**			✓	
• Encourage basic skills training and provide opportunities on the job.		✓		
• Develop data base and commit more state funds to adult literacy efforts.	✓			
• Establish a clearinghouse for literacy programs.	✓			
• Expand and improve professional and volunteer literacy efforts.				✓
The Economically Disadvantaged:				
• Target state resources for the economically disadvantaged to develop more comprehensive programs.	✓			

	State	Business	Education & Training	Communities
• Create and implement a one-stop intake and assessment system.	✓			
■ **Improve outreach to dislocated workers.**	✓			
Small Business Employees: • Implement Small Business Training Teams.				✓
■ **Develop networks for large companies to help small companies.**		✓		
■ **Provide incentives to encourage training consortia for small businesses.**	✓			
• Create a facility to assist small business to implement new technology.	✓			
Action Agenda III: Create an integrated, flexible lifelong learning system that meets high standards of excellence. • Define and incorporate new outcomes for the Learning System.	✓		✓	
• Establish a research and development institute for the new basics.	✓			
• Develop tests that measure attainment of the new standards.			✓	
■ **Establish a state Human Capital Strategy Board.**	✓			
• Develop more comprehensive articulation among educational institutions.			✓	
• Implement the transitions skills portfolio.		✓	✓	
• Develop a system for alternative credentialing for work-based learning.		✓	✓	
• Encourage easier adult access to institutions	✓			
• Provide high quality career counseling to everyone in the system.	✓	✓	✓	✓
■ **Develop early childhood education for all of Colorado's children**	✓			✓
• Continue efforts to improve K-12	✓			✓
■ **Provide work-based learning options to high school and post-secondary students.**		✓	✓	
• Develop new strategies for higher education.			✓	
• Expand training of the workforce.		✓		

■ JCF Priority Initiative

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I. Introduction

"In a world where the information we have on any given subject doubles every two and a half years, where 50 percent of the jobs performed today didn't even exist 20 years ago, where 20 years from now 90 percent of the information a worker has to cope with on the job will have been created after today, where people and products move around the world overnight, and where information is flashed around the world at the speed of light, the only constant is change. And the only security in such a world is understanding that change and adapting to it."

—P.D. Fyke, Chase Manhattan Bank

Looking to the future, Colorado is in good shape to take advantage of a world economy that relies more than ever before on intelligence, creativity, innovation and quality of life.

Coloradans must realize that our economy has changed in fundamental ways. We must move forward together to meet the challenges that these changes have created. The old days will not return.

Many of us are still wondering how the past twenty years of rapid economic growth and tremendous in-migration of people came so quickly to a close. Colorado's growth since World War II attracted new people, new companies, and new industries. Oil drilling, coal mining, and other resource extraction-related industries took off as a result of the energy crisis in the nation. And then the boom ended. As oil, mining, and construction declined, unemployment rates rose, and for the first time we experienced an out-migration of young people and many others who could not find a place in the changing economy.

Our rise to prosperity was so quick and easy and the natural attributes of our state so rich and beautiful that in some ways it is difficult for us to take these changes seriously. But the challenges facing us *are* serious.

Like the nation as a whole, Colorado is competing in an increasingly international economy. To compete effectively in this new economy, Colorado firms are investing in new technologies and new production methods. These changes, in turn, affect the skills required of Colorado workers. Rapid changes in the organization of work require Colorado workers to learn new methods of operation at very fast rates. Workers need broader skills to adapt quickly to new technologies, solve complex problems, and work in teams.

New systems of business organization are causing occupations to become broader in scope. A single set of specific skills is no longer enough to compete effectively in the labor market. Because of this, education and training for

Colorado workers can no longer afford to be solely occupation-specific. Increasingly, workers need to upgrade and expand their skills throughout their working lives. The next generation of workers will face three to five career changes in their lifetimes. Existing public and private institutions are not adequately meeting the continuous training needs of these new workers. Colorado must respond to these occupational changes by creating a life-long learning system that corresponds to workers' needs.

In addition to these changes, Colorado's economy is experiencing structural change. Jobs in traditionally high paying manufacturing industries are being outstripped by job growth in lower paying industries. Because many service and retail sales occupations pay lower wages, industrial restructuring has profound implications for income and earnings potential throughout the state.

Looking to the future, Colorado is in good shape to take advantage of a world economy that relies more than ever before on intelligence, creativity, innovation and quality of life.

- **We have many educated workers.** On the whole, Colorado still has a better educated workforce than the rest of the country.
- **We have competitive industries.** Colorado has a higher percentage of jobs in high-technology industries—particularly high-tech manufacturing and communications—than the nation as a whole.
- **We are a regional capital.** Colorado is uniquely situated to become the "service capital" of the West—the communications, transportation, and financial hub of the Rockies. The state is also growing as a tourist and retirement destination.

To meet our future promise . . . we must address tough problems.

To meet our future promise, however, we must address tough problems. The state's current economy raises serious concerns about regional inequalities and income disparities. These issues demand urgent attention from both the public and private sectors.

- **We have increasing regional disparity.** Many of the "bright spots" described above apply only to the Front Range. Other parts of Colorado have yet to reap the benefits of the way the economy has changed. In fact many regions have been harmed by these changes. Many of our rural communities are declining or stagnating. Indeed, the differences between regional economies are so great that Colorado is almost a collection of different states within a state.
- **We have a growing skill divergence in our jobs.** While Coloradans take pride in the large numbers of high technology jobs that exist in Colorado, job growth in the state in recent years has been almost exclusively in retail and service sector industries that often require lower skills and offer low wages.
- **Our middle income is declining.** Across the state, the labor market is bifurcating; demand for the very highest and very lowest-skilled jobs is

rising, while mid-skill positions are harder and harder to find. As a result of this divergence, many Coloradans work in jobs that pay and challenge them less than they deserve. On the other hand, demand for high skill workers has resulted in businesses importing managers and professionals from outside the state—so the benefits of some economic growth are not being felt by Colorado residents.

- **Minorities are bearing a greater burden.** The impact of economic and industrial change burdens minority workers and their families the most. A disproportionate share of jobs lost during the recent recession was borne by minorities, who lost their share of certain occupations at a rate three times faster than whites.

The Colorado education and training system faces new challenges to prepare people for the changing work place. Efforts must be made to insure that every Coloradan understands the increasingly demanding skills required to work.

- **We have significant education gaps.** Colorado has not done as well as it needs to in developing the talents of all people. Despite the large numbers of highly skilled professionals in the state, Colorado ranks 11th in the nation in adult illiteracy. Twenty-three percent of our young people drop out of school, compared to a national average of 18 percent. And while we rank above the rest of the nation in terms of the number of people holding college degrees, many of these people came to Colorado from elsewhere in the nation, bringing their college diplomas with them. Our system did not produce them.
- **Salaries are Diverging.** Differences in educational attainment are creating an economic chasm between the educational *haves* and *have-nots*. In 1988, Colorado families headed by college graduates averaged a family income of $51,000 a year. Families headed by high school drop outs took home only $18,000.

. . . the quality of human capital is coming to dominate as the critical factor in business location, competitiveness, and prosperity. Colorado cannot reach its economic development goals unless there is very close attention to its human development.

The Role of Economic Development

The purpose of Colorado's economic development effort is to assure that every citizen in the state has an opportunity to achieve a better life—to have a job that offers financial security, stability, and the chance to grow and prosper. But government doesn't create economic development—businesses do. Commerce and industry do it by creating products and services that customers want and value above those made by someone else.

Economic and business development must begin by building on fundamental strengths, including location, proximity to resources and materials, and the quality of life for workers. But recent changes in the economy underscore the fact that the quality of human capital is coming to dominate as the critical factor in business location, competitiveness, and prosperity. Colorado cannot reach its economic development goals unless there is very close attention to its human

development. Many of the goals, as expressed by Governor Romer and the Office of Economic Development, have significant workforce implications:

- *Goal:* Create 150,000 good jobs statewide in the next five years.

  Workforce Implication: Developing skills among Colorado's current residents will require concentrated efforts to develop all segments of the workforce—young as well as old, women as well as men, and workers of color. The fruits of success in growing or relocating well-paying jobs should not go to workers brought in from outside Colorado to fill those new positions.

- *Goal:* Build in-state supplier linkages to substitute Colorado goods and services for those currently imported from outside of the state.

  Workforce Implication: The human resources needed to accomplish this will likely parallel the skill profile of the firms that provide a local market for these goods and services. Public and private sector initiatives that identify likely supplier/market connections must understand the skills needed in order to build substantial Colorado sources for materials, intermediate products, and services.

- *Goal:* Increase the international exports of Colorado products over the coming years.

  Workforce Implication: To have a 'globally competitive' workforce means that workers must be the best in the world, not just equal to workers in other countries. The value in global economic development exists in the degree of innovation and quality, not in having a low-wage labor force.

- *Goal:* Improve the ratio of small business starts to failures.

  Workforce Implication: Expand both managerial and production training among the workforce in both manufacturing and service enterprises.

- *Goal:* Diversify the rural regional economies away from dependence on agriculture, tourism, and mining by building secondary supplier linkages with other parts of the state and by encouraging the growth of food and mineral processing.

  Workforce Implication: Building higher value-added processes cannot happen unless a region has a workforce that has the foundation skills necessary to support industrial and commercial growth.

A Call To Action

Without concerted action the gaps in regional income and earnings will widen and quality of life and economic opportunity for Coloradans will diverge along markedly different paths.

Colorado has an opportunity to prosper in the emerging world economy that few states enjoy. In order to provide the benefits of this unique opportunity to all Coloradans, the public and private sectors must work together to build on

existing strengths, address weaknesses, and update outmoded systems and ways of thinking.

One of the main themes the JCF team heard across the state is the desire for community shared by Coloradans. Coloradans seek a sense of shared vision and responsibility. The strong community spirit, fierce independence, and sense of self-reliance that have long characterized our state have been some of our greatest assets. In the context of today's changing economy, however, our independent spirit may inhibit the united effort required to secure a better future for Colorado. Together, the state's regions must agree upon and work toward common goals. This still allows for infinite local variety in how we choose to reach those goals. But we must recognize that if we want all of our citizens to benefit from Colorado's prosperity, we must work together as one state. Everyone counts.

The strong community spirit, fierce independence, and sense of self-reliance that have long characterized our state have been some of our greatest assets. In the context of today's changing economy, however, our independent spirit may inhibit the united effort required to secure a better future for Colorado.

This document is a call to action. It discusses what Colorado's public and private sectors must consider doing to meet the challenges that lie ahead and why. The document focuses primarily on Colorado employees and employers and describes an education and training system that supports the lifelong learning we need to ensure a competitive future.

This document is also one step in a longer process—it represents the culmination of months of extensive research and analysis. It also represents the ideas and concerns of individuals throughout the state. Through regional meetings, focus groups, surveys, interviews, meetings, and review of the preliminary action plan, we have incorporated input from hundreds of Coloradans into this action plan. In particular, we have tried to be responsive to the values expressed in communities across the state (see Page 8).

There are many groups in Colorado—at the state and local levels—working on aspects of the challenges discussed here. The wealth of effort that exists in the state is a tremendous resource because Colorado has much of the infrastructure of talent, expertise and organization it needs to act quickly and effectively. JCF seeks to provide a framework for common ground and an impetus for uniting statewide efforts in a common cause.

A Vision of the Future

The future is not a foregone conclusion. Concerted effort to build a strong system for lifelong learning, to improve the skills of Colorado's workforce, and to strengthen regional economies can affect the future of the state's economy and our citizens' well being.

To ensure Colorado has a strong future and is competitive in the new economy, we need to agree on a vision of what we are trying to achieve and develop the steps to get there. Here is a vision of Colorado that we believe we can attain:

I. Colorado will have growing regional economies in all parts of the state, rural and urban, based on a strategy that identifies and builds upon regional strengths. Our economic base will be diverse and made strong by a

network of relationships between industries and regions. Small, specialized, flexible Colorado companies will meet the service and supply needs of larger state, national and international companies based in Colorado. Higher value will be added to the products produced in Colorado, and more economic value retained within state borders. Denver will be a stronger regional capital—not only of the Rocky Mountain region but also of the American West.

II. All Colorado citizens will have world class skills or access to ways to get them. Colorado workers will be internationally renowned for our ability to solve problems, innovate and work in teams. We will understand and embody the concept of *continuous improvement*.

III. A lifelong learning system will support all Colorado citizens—a continuous spectrum of opportunities from early childhood education to education for adults of all ages. The standards of competence will be clearly and broadly articulated. Tools will exist to measure competence (including ways to gain credentials for the application of knowledge and experience). Individuals and institutions will be evaluated and rewarded on the basis of their performance in achieving a commonly accepted standard—not for time spent in a classroom or numbers of students enrolled.

IV. The worlds of work and learning will be inextricably connected. There will be many opportunities for work place-based learning for young people as well as for adults. Students will participate in work-study, internship and apprenticeship programs. Workers will participate in on-going training and learning opportunities. Teachers will undertake internships in private firms. Community members will mentor young people in their transitions between high school and a variety of post-secondary opportunities.

V. Community-based skill assessment and counseling centers will be available across the state. Skilled counselors and a variety of tools will be available for assessment, career guidance, and information about available learning resources.

VI. Opportunities for education, training, and advancement will be available to all citizens. Colorado will place a primary emphasis on reducing the disparities between whites and minorities, rural and urban citizens, and between professional and non-professional workers.

Colorado has already achieved some of this vision, and has begun developing other pieces of it. This document hopes to build on the important work already taking place and to fill the identified gaps to provide all Coloradans the opportunity to prosper in the new economy.

Achieving the Vision

Many of the issues identified in this document are familiar. The challenge is to deal with and solve them effectively. Colorado must create the will and consen-

sus to move from familiar problems to the implementation of solutions. Building relevant institutional capacity is critically important, as is changing the incentives to which institutions currently respond.

For this Action Plan, Jobs for Colorado's Future has formulated three action agendas and identified specific initiatives for the state, business, education and training, and community sectors. These agendas, presented in detail in Chapter V, should be the focus of Colorado's workforce development efforts.

Action Agenda I.

The Regional Mismatch: *Develop and implement community action plans for human resource development.*

Action Agenda II.

The Skills Mismatch: *Bridge the skills gap by targeting training for adult workers, the economically disadvantaged, and small business employees.*

Action Agenda III.

The Learning System Mismatch: *Create an integrated, flexible lifelong learning system that meets high standards of excellence.*

Colorado Citizens Talk About Their Future

1. **Coloradans stress the importance of community and community values.** Coloradans talked with passion and pride about the communities in which they live. They spoke of four community values important to them—commitment to the community, the "smallness" of their community, the sense of belonging, and the feeling of ownership and control that results.

   These points are important in relation to training and education: by gaining economic security through such efforts, Coloradans can help build the economic health of their communities, gain control over their destiny, and be able to stay and live Colorado.

2. **Coloradans want an approach to economic and job-related initiatives that is based on their values.** Coloradans believe they've lost control and ownership of economic conditions in their communities and the state. They believe large companies have treated them unfairly by not making durable commitments to their communities, leaders have pursued economic development only when their own benefit, and boom and bust cycles have required the people of Colorado to "take what they can get" in terms of economic growth. Coloradans in the focus groups called for a different approach to economic and job-related initiatives, one that starts with an inclusive planning process where an extensive dialogue occurs among all citizens on the future; where communities support the growth of local businesses run by their neighbors; where large companies make commitments to those communities; and where Coloradans have the ability to act on their own to improve their individual lives.

   These values are critical to consider when thinking about training and education initiatives for the following reasons: (1) Coloradans will not feel fully secure unless they perceive not only that necessary training and education programs are available and that good job opportunities exist, but that the issues of economic growth and the security of their communities are also addressed; (2) training and education in the public's mind is part of a larger economic initiative concerning the future—thus it must be talked about within that context.

3. **Coloradans want to maintain their sense of "rugged individualism."** Coloradans want to balance the oft-noted tension between the community and the individual. While they share a common commitment to the values of the community, they talk passionately, too, about the traditions of Coloradans' "rugged individualism." The latter is not something people are willing to give up: they want the ability to act as individuals within the framework of their communities. For instance, when Coloradans talk about the hardship of economic change, they do not look for statewide or community programs to solve their problems; rather they want policies and programs that allow them to make their own individual choices.

4. **Coloradans want a public dialogue on the future.** Coloradans want to talk—about creating a common vision for the future of their state, and about the skills they need for the jobs of the future and how they can get those skills. They want an on-going dialogue based on a long-term relationship between themselves and leaders, where their input is sought, where there is an exchange of views, and where there is give and take. They won't settle for a "one-time" discussion. Beneath this call for dialogue stands the values of ownership, control, and a sense of belonging that Coloradans say are so important to them.

II. How the Colorado Economy is Changing

The transformation of the state's industrial sectors has had a major impact on the occupational structure of jobs, the education and training required to obtain access to these jobs, and the earnings of workers in various educational attainment groups. Partly as a result of the growth of service sector jobs and the loss of some relatively high-paid manufacturing jobs, Colorado's wage and earning levels are dropping. Despite the strength of high-technology manufacturing in the state, Colorado's service sector is the fastest growing sector of the economy. Indeed, producer services grew an astounding 261 percent—more than three times faster than the rate of total employment growth. Between 1970 and 1988, the service, financial, and trade industries combined accounted for 71 of every 100 net new jobs. By comparison, the goods producing industries accounted for only about 9 of every 100 new jobs. Wage levels, which are good indicators of skill levels, have not kept pace in some of the fastest growing industrial sectors.

To understand what kind of skills Colorado workers will need to compete effectively in the future economy and what kind of learning system must be established to enable workers to participate fully in labor market opportunities, it is important to understand where Colorado is today in terms of the types of jobs available to its people and how opportunities vary by region.

Jobs for Colorado's Future looked at the nature of the labor market in Colorado along a number of different dimensions. In addition, JCF conducted interviews and surveys with Colorado employers and employees in order to determine their attitudes and behavior toward workforce issues. Many of these background analyses were released as separate documents.

We conclude that although many parts of Colorado's economy are well established, much of the state faces growing disparities in income and regional vitality that demand urgent attention. Without a systematic and comprehensive response from many groups—the public and private sectors, employers and workers—the new economy will not develop to its fullest, and many citizens will not be able to share in its success.

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This section summarizes the results of our economic analysis. It is divided into five parts: industrial structure; regional variation; the changing work place; occupational structure; and wages, earnings, and income.

A. Colorado's Changing Industrial Structure

Colorado has shifted to a service-based economy in the past two decades. Manufacturing—usually thought of as the mainstay of an economy—has steadily declined *in relative importance* in Colorado's economy in this period, although it continues to be critical to the economic health of the economy. On the surface, it might appear that Colorado is "de-industrializing," following the same trends affecting the national economy. However, manufacturing employment is remaining fairly constant in absolute numbers, and as in the United States, is losing its share of overall employment because the service sector is growing at a much faster pace.

The *Colorado Training Network* is an informal coalition of state agencies, organizations, and institutions involved with training, human resource development, and economic development. The Network plays an important role in bringing training agencies together with economic development representatives for planning and packaging services to new and existing Colorado companies. In the short existence of this group, critical linkages have been made to help provide better services to companies in need of training. Currently, a move is underway to develop a handbook describing the services of each Network member so members are better equipped to respond to direct requests from companies and from local communities.

Strengthening and formalizing this group would let it respond more effectively to training needs. Establishing a computerized information base with access by all members would be a logical next step to better coordination. In addition, cabinet-level recognition of the group, including frequent briefings of the Governor, would help the group respond to requests in a larger state context.

Table One shows the performance of the Colorado economy over the most recent eight years. Many of the same changes taking place in this period also showed up during the past several decades. The trade, finance, and service sectors led the state's growth—in both employment and in growth rate. The dramatic declines in mining and construction show the volatility of these sectors. Manufacturing showed positive growth, but at a much slower rate than the leading sectors.

Another way to look at the dynamic of the state's economy over the first eight years of the 1980s is to look at both ends of the growth spectrum. **Table Two** and **Table Three** list the best and worst sector performances at a more detailed level. What stands out in Table Two is that three of the five fastest growing sectors are actually manufacturing industries. There is clearly a dynamic within manufacturing that deserves a closer look. Table Three, which delineates the fastest declining sectors, reveals what happened in the recent re-

cession. The worst performing sectors were in mining and construction, followed by two sectors of basic materials production.

Table One
Total Wage and Salary Employment
By Major Industrial Sector in Colorado, 1980 and 1988

Industrial Sector	Total Employment 1988 (000s)	% of Total Employment 1988	Change in Employment 1980-1988 (000s)	% of Change in Employment 1980-1988
Mining	20.4	1.5%	-15.8	-43.6%
Construction	62.0	4.4	-15.0	-19.5
Manufacturing	185.2	13.3	4.8	2.7
Durable Goods	117.7	8.4	1.1	0.9
Nondurable Goods	67.5	3.7	3.7	5.8
Trans. & Public Utilities	82.4	5.9	3.1	3.9
Wholesale & Retail Trade	349.5	25.1	44.8	14.7
FIRE	96.6	6.9	20.2	26.4
Services	327.1	23.5	73.7	29.1
Government	269.9	19.4	26.3	10.8
Total Wage & Salary Emp.	1393.5	100.0	142.4	11.4

How to read this table: "In 1988, 20,400 Coloradans held wage and salary jobs in the mining industry. At that time, 1.5 percent of all wage earners in the state were employed in mining jobs. Between 1980 and 1988, mining had lost 15,800 jobs, a decline of 43.6 percent."

Source: Jobs for the Future, Inc.
U.S. Department of Commerce, Bureau of Economic Analysis

Based on this classification, the five worst performing industries employed just under 4 percent of Colorado wage earners in 1988 while the five fastest growing industries employed about 11 percent of all workers.

Manufacturing: How High is High Technology?

Colorado is far better positioned than most states in terms of national manufacturing industries that are expected to grow in the future. Although Colorado's economy has a smaller manufacturing sector than the United States as a whole, employment statistics reveal that the manufacturing industries in the state have bright futures. Generally speaking, there is less dependence on low technology sectors in Colorado than in the U.S. and greater dependence on high and very high technology.

Colorado's economic future will always be affected by national prospects in the manufacturing sector—including materials, markets, and the degree of competitiveness in the world economy. But the state's mix of manufacturing industries places it in a competitive position with midwestern states whose traditionally lower-tech manufacturing industries are in long term decline. For example, on the whole, Colorado has had relatively little employment in

durable goods, automotive products, textiles and apparel products, and in primary and fabricated metal industries. To the extent that many of these industries provide primarily low wage, low skill jobs, increased foreign competition on the basis of wage level will not affect Colorado the same as it might affect other states.

Table Two
Fastest Growing Colorado Industrial Sectors
1980-1988

Industrial Sector	Percent Growth 1980-1988	Employment (000s)
Business Services	56.1%	72.6
Credit Agencies	51.7	18.2
Transportation Equipment	49.1	17.3
Electronic Equipment	41.9	22.0
Printing and Publishing	36.0	22.3

How to read this table: "Between 1980 and 1988, the number of jobs in the industrial category of Business Services grew by 56.1 percent, and by 1988 employed 72,600 Coloradans."

Source: Jobs for the Future, Inc.
U.S. Department of Commerce, Bureau of Economic Analysis

Table Three
Fastest Declining Colorado Industrial Sectors
1980-1988

Industrial Sector	Percent Growth 1980-1988	Employment (000s)
Coal and Nonmetallic Mining	-38.3%	3.7
Oil & Gas Extraction	-25.9	13.7
General Building Contractors	-39.2	13.5
Primary & Fabricated Metals	-32.0	13.4
Stone, Clay & Glass	-30.4	7.8

How to read this table: "Between 1980 and 1988, the number of jobs in the industrial category of Coal and Nonmetallic Mining declined by 38.3 percent, and by 1988 employed 3,700 Coloradans."

Source: Jobs for the Future, Inc.
U.S. Department of Commerce, Bureau of Economic Analysis

One way of looking at the prospects for employment and wage growth in manufacturing is to predict general prospects for growth in those manufacturing sectors that are important components of the Colorado economy such as

high technology manufacturing. High technology industries are defined by the level of research and development investment relative to overall sales. In general, industries with a high degree of R&D investment relative to sales are more technology intensive than those with lower relative investment. For example, across the United States in 1986, guided missiles and spacecraft industries invested more than 20 percent of sales into research. At the other end of the technology spectrum, industries such as nonferrous metals, paper products, and textiles had research investments of less than 1 percent of sales.

Coors Ceramics takes seriously the need to prepare a future workforce, particularly in the skilled trades that are important to be competitive. A 5-year tool and dye apprenticeship, 2 to 4 year apprenticeships in other skilled crafts, and internship programs for students at Colorado State University take motivated workers and students and give them an opportunity to learn better paying skills. Competition is keen for these apprenticeship opportunities.

Technology-intensive manufacturing sectors are clearly important to the state's economic future. Despite overall decline in the manufacturing sector, high technology manufacturing industries actually outperformed the Colorado economy as a whole between 1980 and 1988. During that period, total wage and salary employment grew by 11.4 percent. Transportation Equipment grew at a much faster rate (49.1 percent), as did Electric and Electronic Equipment (41.9 percent) and the Machinery excluding Electrical industry (11.6 percent). Lower technology industries fared poorly during these eight years, some even posting employment losses. For example, employment in primary and fabricated metals decreased by 32 percent. Overall employment in durable goods manufacturing declined by 21.2 percent between 1980 and 1988. The only manufacturing sector within the low technology group to perform well during this period was Printing and Publishing with a 36 percent increase in employment. Because of the importance of technology-intensive manufacturing to Colorado's future, strategies for economic and workforce development should pay particular attention to its needs.

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The Growing Service Sector: Not Just Hamburger Flippers

As indicated in the previous section, the Colorado economy has shifted toward a service-based economy in the past two decades. The Colorado service economy grew by about 78 percent between 1970 and 1986. Producer services grew an astounding 261 percent. Colorado's *Workforce 2000* report projects that the service sector will continue growing at a high rate.

While the service sector is often discussed in the aggregate, distinguishing between different kinds of services is important. Fast food restaurant employees are service workers, but so are lawyers and health care professionals. Because differences exist in the nature of service jobs—the value contributed by

each to the overall economy, and the wages paid to workers—differentiating between services is critical when attempting to determine strategic growth areas for the state's economy. In addition, many of the service industries that are contributing significantly to Colorado's current growth were relatively minor two decades ago.

For these reasons, Jobs for the Future uses a new classification system that recasts the service sector into more representative groupings:

- **Producer Services** primarily provide services to producers of other goods and services. They are "business oriented," and include finance, insurance, real estate, legal services, engineering, architectural, and other professional businesses.
- **Consumer Services** include services primarily aimed at individual consumption. This category includes recreation services, hotels and lodging, barbers, product repair, and health clubs.
- **Distributive Services** include transportation, communication and wholesale trade. These services help move goods and information from their primary source to the ultimate consumer.
- **Retail Services** are primarily consumer-oriented outlets such as stores and restaurants.
- **Human Services** include private sector health and education services, nursing homes, and other social services.

B. Diversity Across Colorado's Regions

The first, and perhaps most important, fact about Colorado's economy is the depth and nature of variation among the different regions of the state. More than most states in the nation, Colorado's regional economies differ profoundly in their composition, earnings profile, skill levels, culture, and future outlook. These differences were brought home in regional meetings JCF held all over the state and in the opinions expressed by Colorado citizens in the JCF focus groups. Any economic or workforce development strategy that will work for Colorado must acknowledge and address regional differences, and be shaped by regular, meaningful regional input.

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The most salient characteristic about Colorado is that it is made up of several highly disparate sub-state regional economies. Rural areas are stagnating or declining—in both jobs and population. Mining communities in the Western Slope have been hit by the latest down cycle in hard minerals and in oil and gas development. The most prosperous regions have been affected by fundamental changes in the structure of their economies. Denver, like other cities, is shifting to an export-based service and retail economy. In addition, the income gap between urban and rural parts of Colorado is growing.

This section summarizes characteristics of four Colorado regions:

- Front Range
- Western Slope
- Eastern Plains
- Southern Colorado

Although variations within each of these regions need to be recognized, these four larger regions reveal important differences. **Table Four**, for example, shows the differences in distribution of population and jobs.

In 1980, average job earnings in the Front Range were 18 percent higher than the average in the rest of the state. By 1986, the average job in the Front Range paid 34 percent more.

Table Four
Distribution of Colorado Population and Employment
by Region and Industrial Sector, 1986

	Front Range	Eastern Plains	Southern Colorado	Western Slope
Total Population	**83.2**	**4.2**	**1.9**	**10.7**
Total Employment	**84.5**	**3.7**	**1.4**	**10.4**
Farm	37.2	31.5	8.7	22.6
Ag Services	70.3	7.3	1.2	17.1
Mining	76.0	3.3	1.1	20.1
Construction	82.3	2.9	4.6	13.2
Manufacturing	93.7	2.2	0.8	3.7
TCPU	87.0	3.4	1.5	8.5
Wholesale trade	90.2	4.0	0.4	4.5
Retail trade	82.9	3.2	0.9	12.5
FIRE	86.6	2.1	1.3	10.5
Services	85.0	2.6	1.3	11.3
Government	85.8	3.7	0.7	8.8

How to read this table: "83.2 percent of all Coloradans live in the Front Range; 84.5 percent of all employed Coloradans live in the Front Range; and 37.2 percent of all Coloradans employed in farming or ranching live in the Front Range."

Source: Jobs For the Future, Inc.
Colorado Department of Labor and Employment

THE FRONT RANGE (Denver-Boulder, Southern Front Range, Northern Front Range) Real per capita income along the Front Range far surpassed other regions of the state during the 1980s. Real per capita income grew by 10 percent in the Denver-Boulder and North Front Range regions and by 11 percent in the South Front Range. By comparison, real per capita income in the Eastern Plains grew by only 1 percent, it dropped by 1 percent in the Western Slope, and declined in Southern Colorado by 8 percent. In 1980, average job earnings in the Front Range were 18 percent higher than the average in the rest of the state. By 1986, the average job in the Front Range paid 34 percent more.

The Denver-Boulder region has long been the commercial and economic center for the Rocky Mountains. It has the most complex and diverse "traded

Pulling together as a region can pay off for economic development. One example is the *Metro Denver Network*, which brings together 40 economic development groups to study the strengths and weaknesses of the Metro Denver area and target industries with the most growth potential. Helpful steps have been taken to assist other regions to develop the same capacity. Colorado-Ute Electric recently contributed money to set up rural computer networks linking economic developers on the Western Slope, Northeast, and Southeast Colorado.

sector" of any of the state's regions. Products and services from manufacturing, mining, computer services, and tourism serve national (and increasingly international) markets. Denver-Boulder has almost 69 percent of the state's total manufacturing employment and only 56 percent of Colorado's population. Yet Denver's growing service sector, combined with stable retail and wholesale trade, define the core of the region's economy.

In 1987, services generated the largest share of jobs (approximately 27 percent), contributed the most of any industrial sector to the region's earned income (24 percent), and displayed the most growth even during the recession years (service employment increased by more than 35,000 jobs between 1983 and 1987). Statewide, 98 percent of the net new jobs created in the Colorado economy between 1980 and 1987 were in services or trade.

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Incomes in the Denver-Boulder region far exceed average earnings in each of the state's other regions. Average annual earnings from wage and salary employment in 1987 stood at 130 percent above the balance of the state.

The Northern Front Range (Larimer, Jackson and Weld Counties), is the area of the state that is most dependent on manufacturing for jobs. Manufacturing employment grew in this region by about 13 percent between 1980 and 1987—in comparison to a growth rate of only 2 percent statewide. Jobs are concentrated not only in few industrial sectors but also in a very few large branch plants. About half of all manufacturing jobs are concentrated in just eight plants. Virtually all the net gains in manufacturing jobs this decade were in food processing (which are accounted for by significant expansion in meat packing and the opening of the Anheuser-Busch brewery).

The region's economic fortunes are closely tied to these few plants. JCF discussions with employers in the region revealed an optimism about the region's workforce. However, employers also noted that many of the high-tech mainstays have experienced plant reorganizations and downsizing in the past two years, resulting in layoffs. Prospects for significant employment increases in these plants in the next few years are not bright. One goal for the region is to capture the new "out-sourced" supplier activity—a result of larger companies trimming their overhead and relying more on outside suppliers.

The Southern Front Range has experienced strong growth in recent years.

However, this growth has been fueled by U.S. military and defense contracting. Last year, a national consultant report estimated that defense-related activity comprised about 60 percent of the traded sector in Colorado Springs. This sector is not well diversified—it is dependent on a narrow range of industries that tend to rise and fall together. It is highly subject to national political objectives. Perhaps most important for the skills implications of Colorado's future workforce, while the Southern Front Range is an electronics manufacturing center that provides opportunities for technical workers, it is not a center for engineering or research and development that would provide opportunities for higher skilled professionals.

Pueblo is an example of how aggressive public and private leadership, and investments in education and training can begin to turn around a local economy. The school districts have improved dramatically. Local higher education institutions are available for quality workforce training. _PEDCo_ used the state established enterprise zones to reduce the tax burdens of corporate location. Voters taxed themselves to establish the Airport Industrial Park. The combination of all this and more resulted in Pueblo cutting a 23% unemployment rate by about 2/3 over a five year period.

THE WESTERN SLOPE. The Western Slope has suffered great dislocation and economic transition as a result of the decline in mining activity. The number of mining jobs has dropped about 60 percent since 1980. More important is the loss of income that mining employment provided. In 1980, the sector provided approximately 9 percent of all jobs in the region but 20 percent of regional income. Even in 1987 the average annual wage for mining was almost $35,000 compared with a regional average for all jobs of only $16,000.

Tourism is now a larger industry than mining in the Western Slope. Over half of the growth in service sector jobs between 1980 and 1987 was in hotels and recreation. Average wages in tourism-related jobs provide approximately one-third the wages of a mining-related job.

Grand Junction appears to be leading the Western Slope in a mini-manufacturing boom. More than half of all manufacturing jobs in the entire region are located there. Important sectors include food products, printing (greeting cards), and lumber products. The unemployment rate in Grand Junction is the lowest in the region—at about 2 percent.

The Western Slope itself is comprised of several distinct sub-regions, each with its own economic profile and prospects for growth. The northwestern counties reflect a high dependence on mining, while the west central area is characterized by the recent manufacturing and service growth in Grand Junction. Both the central mountain area and the southwest/Four Corners area have experienced significant employment growth in tourism and recreation.

"There are thousands of untapped workers in the Valley. We, as employers, have got to go on the road and reach these people—the women, minorities, and high-school drop outs that we need to get into the labor force."
—A plant manager in Grand Junction

THE EASTERN PLAINS. The Eastern Plains economy shows mixed signals. In many ways the region is stagnating. The number of wage and salary jobs peaked in 1980, and both mining and manufacturing have experienced major layoffs. Retail trade employment—one measure of economic health—has declined as well. On the other hand, agriculture is strong. Farming provided 25 percent of all jobs in 1986 and almost 29 percent of all earnings. Total farm jobs have remained fairly steady since 1978, and real farm earnings have increased steadily since then.

Only 2 percent of the state's manufacturing jobs are located in the Eastern Plains. Employment in manufacturing has decreased almost 20 percent since 1984. The only manufacturing industries to demonstrate growth potential in recent years are food processing, which have had expansions in meat packing and in fruit and vegetable canning.

Wage and salary employment in the Eastern Plains service sector has remained fairly constant. The rise in total employment in services is related to an increase in services proprietorships. The amount of non-farm self-employment was on the rise in all regions of the state during the 1980s—growing by 63 percent, compared to a national figure of 43 percent. Since the average incomes of most proprietors dropped considerably, it appears that there are a number of people in all regions who are providing services part-time out of economic necessity.

SOUTHERN COLORADO. The Southern Colorado economy is the weakest in the state. Average earnings in Southern Colorado were the lowest of any region. The total number of wage and salary jobs dropped by 6 percent between 1980 and 1987.

Southern Colorado has consistently had the lowest per capita income of any region and the highest unemployment rates. One third of all income derived from government is either in the form of wages or transfer payments. Transfer payments (social security, welfare, Medicaid, etc.) provided 25 percent of the region's income in 1986—more than twice the percent of any other region.

Farming, manufacturing and mining are the three most significant trade sectors in Southern Colorado's economy, and all three have experienced employment declines in recent years. As of 1987, there were only 700 jobs in manufacturing—primarily in lumber and wood products. Education and health services continued as the primary providers of jobs. Southern Colorado has experienced a significant amount of growth in self-employment among its

residents in the past five years, more so than in the state as a whole.

Southern Colorado leaders who met in a JCF workshop stressed that the economy has bottomed-out and has stabilized.

C. The New Workplace

Colorado companies are changing in ways that demand different skills of their workers and that increase the need for work place-based training.

The Jobs for Colorado's Future program surveyed employers throughout the state to understand better how the work place has been effected by recent industrial trends. The survey results revealed that Colorado companies are changing in ways that demand different skills of their workers and that increase the need for work place-based training. The following findings emerged from the survey:

- **The use of new technology is changing the work place.** Colorado firms, like those across the country, are being swept up in a revolution of technological and organizational change. New computer-based production technologies are giving firms the ability to design and produce customized products tailored to small, niche markets across the world. Using new technologies in the most efficient, profitable way requires fundamental changes in the way work is organized. Firms are implementing team approaches, pushing decision-making closer to the shop floor where essential design and product information is created and used.
- **Very few small to medium size firms have been able to make the investments in expensive new production systems, training their workforce, and renovating the firm's organizational structure to make full use of new technologies.** The first wave of transition to the work place of the future has hit Colorado's large employers first. The essential vitality of the small business sector in Colorado's future economy makes it doubly important that smaller firms have access to new technologies. Small firms can learn from the experience of larger firms that implementing new technology has tremendous impact on job definition, the organization of work within the firm, and on the skills workers need to produce a new environment.

"Last year we invested millions of dollars in new technologies but we didn't think about training. We thought it would take employees a few weeks to learn how to run the new machines...instead it took six months and we lost a great deal of money. We're learning about education the hard way."

—Strategic planner in a high technology firm

- **By almost a 2 to 1 margin, Colorado employers reported that technology created more jobs than it abolished.** While this fact may be reassuring to Colorado employees, it also highlights that those employees whose jobs

have been abolished may require retraining.

- **The new work place requires newly defined skills.** In addition to the standard basic skills, 90 percent of Colorado employers report that their employees need the *new basic skills* to perform their jobs. (see Chapter III, Section B, The Need for New Skills).
- **Work place training is key to Colorado's economic future.** Trends in firms that have made the transition to the work place of the future suggest the need for concern about the availability of time for work-related learning. The squeeze of workers' and managers' time in a restructured world is a significant and growing problem. As large firms downsize and restructure, Colorado firms are doing more with less. Employees are feeling the crunch of not having enough time or breathing space to keep competitive. Across America, the average number of work hours per week has increased into the mid 40s range. Managers are questioning whether this trend threatens the ability and interest level of workers to take advantage of new learning opportunities as they are established.

Most occupations will be defined increasingly by the skills needed to perform the work rather than by the industry with which they are associated.

"Training has got to be part of a long-term plan. It's got to be fully integrated into the strategic plan of the company. It's one piece of a larger picture—the way to become state-of-the-art."
—Director of manufacturing at a high technology firm

D. The Evolving Occupational Structure

Occupations, as we knew them in the past, are changing. As a result of industrial restructuring and changing business organization, mid-level occupations are decreasing as high and low level occupations proliferate. Most occupations will be defined increasingly by the skills needed to perform the work rather than by the industry with which they are associated. Finally, more and more people will be confronted with several occupational changes in a lifetime.

The net change in new jobs in Colorado between 1980 and 1988 was heavily skewed toward higher-level white collar occupations and sales workers. Sixty-two of every 100 net new jobs during this period were created in the professional, technical, and managerial occupations. An additional 36 percent of the net new jobs involved sales workers. Together, skilled craft, machine operators, and general labor occupations declined by 22 percent.

Colorado's economic personality as a relatively service-oriented economy with a healthy mix of higher technology industry is reflected in the occupational structure within the state. In general, service industries (especially the faster growing ones like producer services and human services) tend to employ high proportions of professional, technical, managerial, and clerical workers. The occupational profile of growing manufacturing industries is also shifting towards more workers in these categories. At the same time, the state's lack of

reliance on more basic durable goods in primary materials and products means that Colorado will have relatively fewer operators, handlers, and laborers.

"I tell guys who come in here looking for jobs in the plant that they should learn computer skills."
—Employee relations manager at a manufacturing plant in Pueblo

Part-time and temporary workers are an increasingly important part of Colorado's future workforce.

During 1987, blue collar workers faced unemployment rates three to five times as high as those of workers in professional/technical occupations. The changing structure of business organization and production is largely responsible for the dramatic differences in occupational stability between blue collar and professional/technical occupations. This difference is at the root of several growing workforce issues including diverging incomes by occupation, and high rates of unemployment among both Black and Hispanic workers in the state.

Part-time and temporary workers are an increasingly important part of Colorado's future workforce. As Colorado companies downsize and contract out functions like data-processing, public relations, and clerical work, the size of Colorado's contingent labor force (or those workers who are not regular, permanent employees of the organizations they serve) has grown. Many of the large firms JCF interviewed report that as much as 20 percent of their workforce is now temporary. These firms view such workers as a critical part of their ability to remain lean and flexible. Because companies are reluctant to take on staff that may be excessive in a down part of the cycle, the "flexforce", as many companies call it, is here to stay. This growing segment of the workforce has far-reaching implications for Colorado's economic future because these workers lack both benefits and training.

Future Occupational Change in Colorado

Participants at JCF regional meetings expressed concern over the bifurcation of the labor force—growth at the high and low ends of the skill and wage spectrum and the loss of mid-level jobs. Employment projections by the Colorado Department of Labor and Employment show that this bifurcation will continue:

- **Low-skill occupations** projected to increase include Helpers and Laborers; Janitors; Transportation/Material Moving occupations; and "Other Service" occupations.
- **High-skill occupations** projected to increase include Teachers, Librarians & Counselors; Technicians; Health Diagnosing and Treatment Occupations; Engineers, Architects, & Surveyors.
- **Medium-skill occupations** projected to increase include Mechanics, Installers & Repairers; Secretaries; Other Administrative occupations; and Other Sales occupations. All occupations projected to decline in employment in Colorado in the future are mid-skill occupations including Machine

Setter/Operator occupations; Precision/Production occupations; and Record Processing occupations.

JCF's employer survey results, which are listed in **Table Five**, reported similar results.

Table Five
Expected Growth in Occupational Groups in Colorado Firms

Occupational Group	% Reporting an Expected Increase
Sales and marketing	48%
Technicians	38
Skilled crafts	34
Professionals	32
Clerical	30
Operators	30
Service	24
Managers	16

How to read this table: "48 percent of all firms responding to JCF's survey of Colorado employers expected growth in sales and marketing jobs in the next three to five years."

Source: Jobs for the Future, Inc.

E. Shifts in Wages, Earnings, and Income

Colorado's wage and earnings levels are dropping as the state shifts more to a service-based economy. Wage levels differ by industrial sector; jobs in manufacturing or mining, for example, tend to pay much higher wages than jobs in retail trade or consumer services. As a result of these wage differentials, structural shifts in the economy can have significant implications for the economic well-being of Colorado workers causing Coloradans' standard of living to decrease.

In 1978, employees in each of the goods producing industries had annual earnings well above the statewide average of $11,827. Annual earnings in manufacturing were 25 percent above the statewide average; earnings in construction were 21 percent above the average. The two private industry sectors with earnings below the statewide average in 1978 were private services (20 percent below) and retail trade (37 percent below).

While annual wages in Colorado increased 75 percent between 1978 and 1987, adjusting these figures for inflation demonstrates that real annual earnings increased by only 0.7 percent in the nine year period. Throughout the state, job earnings are decreasing as a percent of total income. Job earnings peaked in 1978 in all four regions and have been on the decline since then. Increasingly, more income is being derived from passive investments like dividends, interest, rent, and transfer payments.

Trends in Colorado's per capita income figures parallel job trends. The state started the decade of the 1970s with personal incomes about 4 percent below those of the nation. By 1982, the per capita income of Colorado residents exceeded the national figures by about 10 percent (ranking the state eighth among all 50 states). Between 1982 and 1987, income levels grew in the nation at a much faster rate than Colorado so that by 1987 Colorado's per capita income level rated only 1 percent higher than the nation; the state's rank among all states fell to 16th. The deterioration was the result of slower growth in the labor force, declining wage and salary employment, a rise in the aggregate unemployment, and a deterioration in the relative wage position of Colorado workers—reflecting shifts in industry employment and lower than average wage growth in most state industries.

Our changing economy has caused the income levels of Colorado's families to diverge based on education level. The more educated households are doing much better than the rest.

Our changing economy has caused the income levels of Colorado's families to diverge based on education level. The more educated households are doing much better than the rest. Median family incomes in Colorado mirrored those of personal income. Real median incomes of U.S. families (in 1987 dollars) increased by 11.5 percent between 1982 and 1987, but the real median income of Colorado families declined by about 2 percent over the same period. From an income position in 1982 that was nearly 13 percent greater than that of the typical U.S. family, Colorado's median family income in 1987 had fallen to a level 1.5 percentage points below the nation, a relative position not occupied by the state since 1969.

By 1987, the median incomes of Colorado families varied substantially by the educational attainment of the family householder. Colorado families headed by a high school drop out had a median family income of only $18,000 in 1987 versus about $26,700 for families headed by a high school graduate and nearly $51,000 for families headed by college graduates according to the U.S. Bureau of the Census, *Current Population Survey*. The fact that the median income level in Colorado declined between 1982 and 1987 gains more significance given how that decline was distributed across education levels of householders. *All of the relative decline was confined to those families with a head of household who had not graduated from college.* Between 1982 and 1987, Colorado families headed by college graduates actually improved their income position relative to their national counterparts. These figures demonstrate that favorable employment and earnings opportunities did exist for college graduates in Colorado, even during the recession years. They also demonstrate that most of the economic damage of Colorado's recession was borne by a specific segment of the population.

. . . most of the economic damage of Colorado's recession was borne by a specific segment of the population.

The shift in employment to the service sector in Colorado has adversely affected the real earnings of Colorado workers in recent years. Future improvements in real per capita incomes and family living standards in Colorado will be dependent on gains in productivity in all industries, especially in the service, finance, and retail trade sectors that have accounted for a major share of job growth during the 1980s. Because many of the growth industries are low-wage, state human resource practitioners must pay attention to training strate-

gies, changes in access paths, and changes in internal career ladders that can boost worker productivity and increase real earnings of employees over their working lives.

III. How the Colorado Workforce is Changing

At the same time that the demand for labor is changing because of changes in Colorado's industries and occupations, the supply of labor is undergoing a radical transformation in terms of demographic composition and education levels. The state's future workforce will be characterized by greater numbers of women, minorities, and older workers. In addition, the state will likely face a labor shortage as population levels decline and in-migration may not meet the demand for labor.

These changes mean that Colorado faces a possible mismatch between the skills that will be demanded by the jobs of the future and those possessed by the workers of the future. This mismatch has two dimensions: quantity and quality. The state may soon face a labor shortage but it will also face a growing skills gap. Indeed, as JCF's surveys and interviews with employers indicate, this skills gap is already apparent. Without intervention, it will hamper Colorado's ability to rebound or sustain future economic growth.

A. New Workforce Characteristics

The following facts serve to demonstrate the serious nature of the workforce challenges that lie ahead for Colorado employers, employees, and public policy makers.

1. ***Colorado's workforce and population growth between now and 2010 will slow to almost half the rates of the period from 1970 to 1988.***

Between 1970 and 1988, Colorado's workforce expanded at an annual growth rate of 4.8 percent. This huge increase was the result of three main factors: a strong demand for labor that generated large numbers of in-migrants; the fact that Colorado's baby boom population came of working age; and the movement of increasing numbers of women into the workforce.

Increases in Colorado's workforce and population growth in the next two decades will be at a much slower rate than in the past. Even assuming full economic recovery, the forecast for annual workforce growth is only about 2.7 percent. Population growth, which averaged 2.7 percent annually over the same 1970-1988 period, is expected to drop to about 1.1 percent per year. In-migration to the state, traditionally a source of highly skilled labor, has also slowed. In each of the last three years, more people left the state than moved here; this

represents the first time in Colorado's history that we lost population because residents left in large numbers.

2. ***The state's resident workforce is aging and may not be able to supply the state with enough workers in the future.***

Slower workforce growth will be accompanied by the aging of the workforce. In 1988, the median workforce age was 34.9 years. By the year 2000, the median age will increase to 38.6. Residents between the ages of 55 and 64 will be the fastest growing segment of the population.

Historically in Colorado, older citizens are less likely to hold jobs. Only 30.1 percent of all Coloradans who were at least 55 years held jobs in 1988. Only about 12 percent of those who are at least 65 years old were working. Thus, as the Colorado population ages, it is likely that the size of the indigenous workforce may not be able to supply the labor demand.

3. ***Many of Colorado's workers are currently considering leaving the state.***

JCF conducted a survey of Colorado workers to learn more about their attitudes toward and need for training. Twenty-two percent of the people surveyed are considering moving away from the state. Of those, only 4 percent are considering moving because they don't like Colorado. The majority—55 percent—are considering a move because of better job opportunities elsewhere. Indeed, 58 percent said that they would like to stay in the state. This has important implications for Colorado's ability to avoid a future labor shortage.

4. ***Women will continue to enter the workforce at a faster rate than men.***

Colorado's female workforce will grow more rapidly than the male workforce through the remainder of the century. In fact, women are expected to account for about 54 percent of all new workers. While women will constitute a majority of new labor force entrants, the rate of increase in the female labor force will actually slow from the current levels. JCF's survey showed that women in Colorado face a number of obstacles in relation to work. They are significantly less satisfied with their employers than men, think that there is less opportunity for advancement, are less likely to think they could get an "ideal" job, and are less likely to have their current training or work-related education paid for by their employers. In addition, women face more obstacles than men in getting training off-site. They find courses and programs less convenient (69 percent for women vs. 58 percent for men), report having less time or energy (41 percent vs. 24 percent), believe it costs too much (58 percent vs. 43 percent), lack child care (25 percent vs. 13 percent), and lack transportation (19 percent vs. 14 percent).

These issues must be addressed by Colorado employers and government if women are to contribute fully to Colorado's economy.

5. ***Faster growth among the minority population will result in a larger percentage of minority workers.***

The Colorado workforce will continue to be predominantly Anglo. However, the proportion of minority workers in the state is projected to increase from 15 percent to 19 percent by the year 2010. This increase in minority workers is primarily a function of a higher population growth rate. This trend is a continuation of what has happened in the recent past. In 1970, minorities accounted for only about 13 percent of Colorado's workforce. For several years, the growth rate among non-white workers has exceeded that for Anglos.

In Colorado, as in the U.S., nearly six of every ten people who enter the workforce between 1986 and 2000 will be members of minority groups. At the same time, Colorado's minority populations are in a period of significant economic difficulty. Black unemployment in Colorado has risen from 8.9 percent in 1982 to 14.9 percent in 1988, while the U.S. average has fallen significantly over the same period. While some of this may be attributable to high black concentration in troubled industries and occupations, the degree of change calls for further investigation and action.

The fastest growing groups in Colorado's population are those most at risk: poor minority young people.

The fastest growing groups in Colorado's population are those most at risk: poor minority young people. A recent study shows that minority students can be as much as 30 percent behind their white counterparts in math and reading by the time they reach 4th grade. And while the state high school drop out rate stands at 23 percent, the drop out rate for minorities stands at 50 percent. Colorado needs a plan for dealing with this challenge. It cannot afford to lose a generation of minorities. Minority leadership groups are ready to act and represent a major resource.

The **Black Roundtable**, a private Colorado coalition of community groups, and **LARASA** (the Latin American Research and Service Agency) have begun to focus attention on this issue. They confirm the urgent need to build the skill and confidence levels of minority workers. For example, in a recent

The *Denver Family Opportunity Program*, developed by Denver Department of Social Services, creates a comprehensive system of community support services to attack the structural roots of poverty and move people into the workforce. The program targets the recipients of Aid to Families with Dependent Children (AFDC) funding. It integrates the many departments and agencies with which an AFDC-recipient must interact while children are provided health and child care services so the mother may concentrate on the training she requires.

The client is helped through the entire training process by a support group of agencies and services, but the client only interacts with her case counsellor.

Highlights of services include:

- **Health care**
- **Specialized case counselors**
- **Child care during training**
- **Career counseling**
- **Training for a specific career**
- **Mentorship throughout the program**

poll of Hispanic Coloradans by LARASA, the overwhelming majority of respondents (75 percent) reported that they lack the education and skills needed for their jobs.

While much of this may result from heavy minority representation in occupations that receive comparatively little training, Colorado should make special efforts to serve these groups for the same competitive reason mentioned for women. In addition, the needs of Coloradans whose primary language is not English require particular attention.

6. Disabled Coloradans are an important and under-utilized resource for the labor market

Over a quarter of a million disabled persons, 268,150, of all ages, are residents of Colorado; this number is from the 1980 U.S. Census, in which people identified themselves as being disabled. This is nearly one in every eleven Coloradans. About 17.5 percent of Colorado households include at least one disabled member—that is nearly one in every six households.

Provided an opportunity, many disabled people can work. In fact, Colorado has a significantly higher participation rate (48.0 percent) than the national average (38.1 percent). However, efforts must be made to increase opportunities for more disabled Coloradans to participate in the workforce.

More opportunities will benefit the economic situation of many disabled workers. Almost one third of the disabled population in Colorado has no earnings at all in a typical year and one in six lives below the poverty level. In addition, a greater participation by disabled workers can help Colorado avert its looming labor shortage.

The public and private sectors in the state face the urgent challenge of improving the amount and kind of training available to current and emerging Colorado workers. Meeting this challenge will require Colorado to organize education as a lifelong process and to develop a more effective education and training system.

B. The Need for New Skills

The pressure for higher productivity to compete in international markets, the changing nature of management and production, and an influx of new technologies are increasing the level and kind of skill needed for effective performance. Colorado workers today fall short of this standard. The state faces critical gaps in the quality of skills possessed by Colorado workers across the board. Over half the workers in the state face obstacles to getting further training. The public and private sectors in the state face the urgent challenge of improving the amount and kind of training available to current and emerging Colorado workers. Meeting this challenge will require Colorado to organize education as a lifelong process and to develop a more effective education and training system.

The Bank Operations Division at *Colorado National Bank of Denver* provides training communications for deaf employees, and department employees can be trained in sign language. The bank also hires an interpreter for deaf employees to attend training meetings.

JCF used a variety of methods to assess the skills that will

be required in the jobs of the future. We profiled all Colorado occupations along five key skill dimensions according to the levels of skill required to do the job effectively. We spoke directly with Colorado employers about the skills their workers need for effective performance today and in the future. We conducted intensive on-site field interviews across the state and we met with the human resource directors of ten major companies. We surveyed Colorado employers, receiving responses from over 1,200 companies. And finally, JCF conducted a survey of 500 Colorado workers .

At *StorageTech* in Louisville, the skills needed for good jobs in the future are required today. Critical to producing high quality computer disks and related products are process engineers who ensure that manufacturing processes work perfectly all the time. Jack Glatleider, employment manager, says these and other critical jobs require several skills; (1) Technical expertise, (2) Good analytic skills (understand data and make quick decisions), (3) statistical process control, and (4) written and oral communication skills. StorageTech helps employees develop and enhance these skills through both in-house training and reimbursement for outside courses. The result is a high quality product and turn-over rate of less than 7%.

Skills Required by Future Jobs

In the future economy, innovation, ideas and good service will drive success. Human resources will be critically important, and workers will need more than narrow, technical competence. In all occupations and at all levels of responsibility, Colorado needs people who take initiative, who can change and learn new things quickly, and who can work well with others.

What skills will Colorado workers need to compete in the workforce? The American Society for Training and Development, which has an active Colorado chapter, recently published a comprehensive description of skills required for the future (see box on next page). The nature of these skills must be taken seriously because they constitute the "basic" transferable skills of the future. We believe that Colorado must ensure that all workers have these skills. Most education and training programs in Colorado today fall short of addressing the full scope of these basics.

In addition to these basics, policy makers in the public and private sectors consistently seek better and more precise ways of determining skill requirements for different occupations or families of occupations. This strategy made sense in the past when occupations were fairly static. The changing nature of work organization and technology today, however, limit the usefulness of generic skill profiles for individual occupations. Today, skill demands for the same occupation may vary by several different factors, including industry, company management style, business strategy, marketing strategy, product life cycle, and by individual job holders.

The "New" Basic Skills

The best description of new basic skills appears in the publication *Basic Skills*, a report issued by the American Society for Training and Development prepared under a grant from the U.S. Department of Labor, Employment and Training Administration. The new basic skills, according to ASTD, include:

- **Learning-to-learn.** This is an essential skill that every worker must have in order to learn effectively in new situations and to acquire new skills for the future. It provides the basis for lifelong learning for social as well as workplace skills.
- **Competence in reading, writing, and computation.** Society sets its own goals for literacy in the 3 Rs. Viewed only from the perspective of employers, workers must have job or occupational literacy—the ability to perform job-related reading, writing, and computation tasks demanded in the workplace. Vocational programs, especially remediation programs for adult workers, must attempt to function contextually, so that instruction will be meaningful to workers in terms of their prior knowledge and workplace experience. Job-related computation skills refer to an employee's ability to perform different mathematical tasks such as quantification, computation, measurement, problem-solving, and comprehension.
- **Communication (oral and listening skills).** To be an effective communicator, a person needs three component skills—awareness and understanding of his or her dominant style of communication; understanding and valuing communication styles that differ from one's own; and the ability to adjust personal style to a style that differs from yours.
- **Problem-solving.** This skill refers to the ability of a worker to detect the existence of a problem, critically and creatively propose and analyze possible solutions, and choose a viable solution to resolve the issue.
- **Creative thinking.** Creative thinking refers to the use of different forms of thought to visualize innovations and generate ideas to fill a perceived need. Having a workforce with the ability to develop new and relevant ideas is a hallmark of new basic skills.
- **Personal management skills.** Self-esteem, motivation/goal setting, employability/career development are the building blocks for good morale and, ultimately, organizational productivity.
- **Group effectiveness skills.** Interpersonal, teamwork, and negotiation skills are some of the most critical yet different skill needs for the future workplace. As workers move into a more interdependent environment, the ability to work with others to accomplish job tasks will begin to dominate. Negotiation refers to the resolution of differences through compromise, accommodation, or collaboration.
- **Influence Skills (organizational effectiveness and leadership).** Quite simply, this is the ability to work through the social and organizational connections that exist within a firm, or between the workplace and the outside world. Leadership motivates others to understand a goal and move toward accomplishing it.

JCF analyzed the specific skill requirements of particular jobs using a methodology that profiles jobs according to the following competencies:

- **physical or psychomotor skills**
- **factual knowledge**
- **intellectual or cognitive skills**
- **interpersonal skills**
- **motivational skills**

This makes it possible to look at occupations in terms of the skills and abilities they require as opposed to educational attainment. The framework allows one to compare, for example, the kind of thinking required of an engineer to that required of a mechanic. It also makes it easier to think about what kinds of skills might be transferable as people progress through their careers. For example, a mechanic trained in a secondary school vocational education program might decide to go on for further training in light of the fact that the skill profile for his job resembles that for an engineer—especially in the systematic reasoning about cause and effect that it requires. (Occupational Skill Profiles appear in Appendix A.)

In general, the JCF skills analysis reveals that the skill content of Colorado's jobs is higher than the national average. The JCF skills analysis revealed that 58 percent of new jobs in Colorado between 1986-2000 will be at the highest three levels of intellectual/cognitive skill. Over 50 percent will be at the highest two levels of factual knowledge. Forty percent of new jobs will require the highest three levels of interpersonal skills. Four out of the ten fastest growing occupations (in percentage terms) require high levels of intellectual, interpersonal, and factual knowledge skills.

"With production getting increasingly specialized, a B.A. just won't cut it anymore. Technical training, starting at an early age is the wave of the future."
—A training manager at a new-style manufacturing firm

Employees Recognize That They Need More Skills

Another important indicator of a skills gap is the comfort level of employees on the job. JCF's employee survey revealed that Colorado workers are aware that the skill needs of the work place are increasing.

Ninety percent feel that jobs today require a lot more training and education than they did just a few years ago. Forty-three percent believe they will need additional education just to keep the jobs they have today. In addition to learning new skills for the new economy, Colorado employees also recognize that they face challenges with mastering the old basics: literacy and math comprehension. Twenty-eight percent of the surveyed employees report the need for improved reading and math skills to do their present job better.

C. Identifying the Skills Gap

The difference between the skills required by the new work place and the skills possessed by Colorado employees is termed *the skills gap*. To identify the critical skills gap in Colorado, employers were surveyed to determine what skills their employees possess today and what skills will be needed in the future. The results are discussed below.

New Basic Skills in the Colorado Workforce

An overwhelming majority of firms throughout the state reported that basic skills are important for workers in all occupations. A great deal of emphasis has been placed on the need for better basic skills—reading, writing, and mathematics—among America's workers. In addition, the perception by many educators at the post-secondary level is the need for stronger technical skills, especially for computer-based applications. In Colorado, JCF asked firms to tell us which of many different skills were really important for workers in various occupational groups. While basic skills are obviously necessary, more than 90 percent of firms surveyed believe that skills in communication, problem-solving, teamwork, adapting and learning, work ethic, and job specific tasks are equally as important for employees in all occupational categories (See Table Six).

Table Six

Q: "Is this skill important for a worker in this occupational group?"

	Managers	Prof.	Skilled	Semi-Skilled	Sales & Marketing
Reading	97%	96%	96%	85%	97%
Math	93	89	90	76	91
Computer	69	68	72	33	71
Communication	99	98	95	94	99
Job specific	95	97	97	95	97
Problem Solving	98	96	93	89	96
Adapt and Learn	99	99	98	98	99
Work Ethic	100	99	99	99	100
Teamwork	97	97	97	97	97
Setting Priorities	94	92	91	85	95

How to read this table: "97 percent of respondents reported that reading skill was important for a managerial worker."

Source: Jobs for the Future, Inc.

While the vast majority of firms believe it is important for their employees to possess all of the basic skills tested in the survey, the qualities Colorado employers feel most strongly about are a strong work ethic, the ability to communicate, and the ability to adapt and learn.

"We already reimburse employees to get their GED, but these days that is not enough. I'd like to see us teach basic skills at the work place—communications skills, electronics, basic motor skills, interpersonal skills, and a course on the realities of working so that people know what the realities of holding a job is."
—A plant manager in Grand Junction

Large differences in skill needs were reported across the occupational groups. For example, 75 percent of firms report that math skills are important for semi-skilled occupations but 90 percent of firms believe math skills are important for professional and skilled occupations. Similarly 85 percent of firms believe reading skills are important for semi-skilled occupations compared to 97 percent of firms for professional and skilled occupations. And, approximately 70 percent of all firms surveyed believe computer skills are important for professional and skilled workers, but only a third of all firms believe computer skills are important for semi-skilled workers.

. . . skill deficiencies among Colorado workers are greater in the middle to lower level occupations—employers report the greatest skill deficiencies in their semi-skilled and skilled labor force.

Skill Deficiencies in the Colorado Workforce

On the whole, Colorado employers reported being generally satisfied with specific skill levels among the workforce—between 60 percent and 80 percent of workers rated as adequate or better than adequate across ten skills. However, skill deficiencies among Colorado workers are greater in the middle to lower level occupations—employers report the greatest skill deficiencies in their semi-skilled and skilled labor force. Among all skills tested in the JCF survey, skills deficiencies were found most often in communicating effectively, setting and meeting priorities, and in solving problems. Colorado employers appear most satisfied with their employees' job-specific skills.

Employers report greater deficiencies in many basic skill areas, especially among skilled and semi-skilled workers (See

CF&I Steel in Pueblo has suffered a painful transition. Foreign competition and the recession have knocked the legs out of its product lines. Once employing 5,000 people, CF&I had to layoff most of its workers. Today as it struggles to compete, it does so in part by insisting upon a highly skilled workforce. All CF&I employees must have a high school diploma and must pass basic math and reading skills. CF&I, in the new "buyer's market" for its products, must meet outside requirements of training and quality of products. CF&I has worked hard to make sure the local community college delivers graduates who pass their employment requirements. CF&I also arranges internships for local high school students. Despite the huge layoffs, the company's biggest problem is finding skilled workers.

Table Seven). Over a third of firms report that their semi-skilled workers have poor to fair math, reading, communication, problems solving and setting priority skills. Job specific skills are the only skills area where semi-skilled workers rated well.

Table Seven
Percent of Firms That Rated Employees' Skills as "Poor" or "Fair" Across Ten Skill Areas

	Managers	Prof.	Sales & Marketing	Skilled	Semi-Skilled
Reading	4%	7%	7%	15%	36%
Math	7	11	10	21	40
Computer	29	32	31	30	53
Communication	11	18	10	23	38
Job specific	6	6	16	11	39
Problem Solving	11	14	16	26	39
Adapt and Learn	8	10	12	17	28
Work Ethic	9	13	11	16	28
Teamwork	11	13	14	15	25
Setting Priorities	17	18	20	22	38

How to read this table: "4 percent of respondents rated the reading skills of their managerial workers as either 'poor' or 'fair'."

Source: Jobs for the Future, Inc.

A large number of firms report that skilled workers are most deficient in five of the ten skills listed in the survey. The areas that skilled workers are most deficient are precisely the skills that are increasingly important in the Colorado work place—computer skills, problem solving skills, communication skills and the ability to set and meet priorities.

The level of deficiency among professional workers is much smaller. The only skill deficiencies a large percentage of employers report among professional employees are computer and priority-setting skills. The only skill deficiency reported by a significant number of firms among managers and sales and marketing professionals is in computer skills.

Employers Report Trouble Finding Skilled Workers

An important indicator of the skill levels of the workforce is the ease with which employers are able to find skilled employees. Almost half (47%) of Colorado firms reported that they have problems hiring employees for their most critical jobs. In addition, nearly 4 out of every 10 employers reported that finding quality workers was a critical problem. The problem is most acute among skilled workers, sales and marketing, technicians, and professional jobs—the very occupations expected to increase most in the next five years. Similar findings have been confirmed by other studies conducted by the

Colorado Department of Economic Development, Colorado Department of Education, and the University of Colorado.

"Our number one problem with assemblers is illiteracy. Many of them can't read the work schedules, and it really shows up in Statistical Processing Control classes. Many of our immigrant workers attend ESL classes but natives who aren't literate are too embarrassed. Ultimately we have to fire them or move them to a position where reading and writing aren't important."
—A manufacturing manager at a technology firm

Skill Deficiency by Firm Size

In general, larger firms report greater skill deficiencies among workers in all occupations than small firms. Larger firms are more likely than smaller firms to cite skill deficiencies in their professional workforce in the areas of communication, teamwork, and the ability to set priorities. Professional workers' shortcomings in these areas may be more apparent to employers in large firms because the need for these skills is greater in large organizations.

While small and large firms alike identify skill deficiencies in the semi-skilled labor force, large firms are more likely than small firms to report deficiencies across every skill area. Over 60 percent of all firms with 50 employees or more cited significant deficiencies among semi-skilled workers in reading, math, and computer skills.

Companies like *Ball Aerospace* are taking advantage of *Colorado's Just in Time Institute* to teach assembly workers the teamwork and philosophy needed to compete in a fast-changing work place. Ball has made a commitment to send 60 students to JITI. James Hembd, Director of Aerospace Manufacturing, credits the program with helping to "empower" workers and conveying clearly the importance of quality and teamwork in an era of complex, rapidly changing production.

Employees in both large and small firms were rated as "poor" to "fair" in computer skills. Large and small employers both cited computer skill deficiencies across all occupational categories—professional, skilled and semi-skilled.

The Challenge

As the characteristics of the Colorado workforce change and the skill demands for a competitive economy increase, Colorado is faced with an urgent and difficult challenge to equip continuously every Coloradan with higher skills. Statistics show that for many of Colorado's future workers, especially minorities, the education system falls short of meeting this challenge. Employers show that although they have trouble finding the skilled workers they need, they also

Martin Marietta Astronautics Group provides off-duty education to employees and others through their Evening Institute. Over 130 courses are offered at no cost, and some are accredited at community colleges. Martin Marietta Astronautics Group also supports the educational efforts of employees pursuing undergraduate and advanced degrees. All costs are company paid if the education relates to the company's plans for current or future positions.

are not meeting their own training challenges on the job. Finally, most employees know that they need to upgrade their skills, but many face difficulties and obstacles in doing so.

The challenge of preparing the workforce demands addressing the gaps in Colorado's education and training systems. The next section reviews how that system works and calls for organizing that system to respond, first and foremost, to the needs of the individual using the system.

IV. Why Colorado Needs an Integrated System of Learning

By building a lifelong learning system today that will support the new economy, Colorado will have the capacity to develop and maintain the highly skilled and flexible workforce it needs to be competitive. Colorado leaders must look at all the institutions that provide learning, starting with preschool and continuing throughout a person's life, and see how they fit together into an integrated whole. This includes developing new systematic ways in which each individual, already on the job today, has access to the learning needed to make a full transition into a future of continuous change.

Developing a true lifelong learning system to support these needs, rather than a conglomeration of independent, largely uncoordinated pieces, will require a fundamental reconceptualization of what education and training mean. The learning system will have to be "cradle to grave," with as much attention given to early childhood and adult education as to the traditional areas of compulsory schooling and post-secondary education. It must promote better ways to develop, measure, and give credentials for broad, transferable skills, and not solely content-specific skills. Improvements will be needed within each segment of the lifelong learning system: early childhood development, K-12 education, higher education, the school-to-work transition, in-house training (entry level, upgrading, and retraining), second chance and other adult learning programs.

The learning system will have to be "cradle to grave," with as much attention given to early childhood and adult education as to the traditional areas of compulsory schooling and post-secondary education.

Most important, the system will have to work as a system. Improvements will be required in the way the pieces are linked together to serve individuals as their needs change. For example, if we expect people to move in and out of education and training settings, sometimes alternating between work and school and often combining the two, then we would expect that knowledge about how to negotiate one's way through the system is readily available—and that there will be some provision for equalizing opportunity for access to different elements of the system for all groups of the population. We would also expect that public and private sector interests, state and local, would understand each other, cooperate, and work together.

This section of the Action Plan analyzes the gap between such an ideal learning system and the segments of it that exist today. We describe how each

segment of the system works, whom it serves, and how it measures up to the need. We identify models of success already at work in Colorado as well as where the system can be improved.

A. Learning in the Private Sector

The majority (75 percent) of Colorado workers who will be working in the year 2000 are on the job today. In light of rapidly changing skill requirements, a major public policy question is how to ensure that public and private sector resources work together to give these workers an adequate range of opportunities for training and development. The private sector has a major interest in and responsibility for investing in the skills of Colorado workers.

Conflicting signals emerge from the Colorado work place. In JCF surveys, most firms say that training is a good investment. And they say that they are satisfied with their current training options. Yet training within most firms concentrates on job-specific skills, even though what is needed is training in the new basic skills. Over half of all Colorado firms spend very little, if any, funds on training; very few use much of the range of training options now available to them. And many of those workers most in need of training, according to employers, receive less training than those workers reported now to have adequate skills.

The Jobs for Colorado's Future survey of employers revealed the following insights into private sector training and education:

- **Although Colorado employers believe in the value of training, many are not supporting it.** Sixty-three percent of employers ranked training as a good or excellent investment. In addition, most firms are satisfied with their training options, with 70 percent finding their training options satisfactory or highly satisfactory. Yet over half of all Colorado firms spend very little, if any, funds on training (**Table Eight**).

- **The overwhelming majority of companies (76 percent) offer training primarily to increase the job-specific skills of employees.** Teaching new technologies (32 percent) and preparing workers for promotion (19 percent) or certification (14 percent) were the three other reasons most frequently mentioned. Very few companies offered training as a fringe benefit or to reward performance. Very few offered remedial education courses in reading or math, despite common complaints that workers' skills in these areas are not adequate (**Table Nine**).

- **About four in ten companies responding to the JCF survey rated themselves as innovative along a variety of measures (product development, management style, production process, marketing).** These companies were more likely to see training as a good investment, to provide training to their workers, and to use a wider range of training options. These findings are consistent with those of the recent study on exemplary American companies, Made in America, Regaining the Productive Edge, by Michael L.

Table Eight

Amount Spent by Colorado Firms During One Year for Employee Training

Amount	Responses	Total
$0	24%	24%
$1-$200	9	
$201-$400	8	
$401-$600	9	37%
$601-$800	2	
$801-$1000	9	
$1,001-$2,500	13	25%
$2,501-$5,000	12	
$5,001-$10,000	4	8%
$10,001-$25,000	4	
$25,000+	6	6%

How to read this table: "24 percent of all firms responding to JCF's survey of Colorado employers reported that they typically spent $0 each year for employee training."

Source: Jobs for the Future, Inc.

Table Nine

Most Common Reasons for Training

Q:"What are the three most common reasons why your firm offers training to employees?"

Type of Training	Priority #1	Priority #2	Priority #3	Total
Job Specific Skills	76%	12%	4%	92%
New Technologies	21	32	14	67
Prepare for Promotion	7	12	19	38
Certification	14	12	11	37
Reward Performance	5	4	10	19
Fringe Benefit	4	3	12	19
Reading/Math	2	3	8	13
Other	4	1	3	8

How to read this table: "76 percent of all firms responding to JCF's survey of Colorado employers reported that training for job-specific skills was their highest priority in offering training to employees."

Source: Jobs for the Future, Inc.

Dertouzos, Richard K. Lester, and Robert M. Solow for the MIT Commission on Industrial Productivity. This study found that companies with

human resource policies that promote continuous learning were more competitive than those which do not.

- **By far the most frequent source of training used by employers is in-house staff (74 percent).** Other sources of training used frequently by employers were trade and professional groups (58 percent), equipment vendors (44 percent), and consultants (39 percent).
- **While employers overwhelmingly confirm the importance of new "basic skills," the majority of courses that they offer focus on more narrowly defined job-specific skills.** Many of the most important skills from a "future" or competitive perspective receive little formal attention.
- **Informal training is the most important training method used by Colorado employers (Table Ten), yet 54 percent of Colorado workers said that informal, on-the-job training is not a good way of learning.**

Table Ten
Importance of Training Source

Source of Training	Very Important	Somewhat Important	Not Important
Informal training	80%	13%	6%
Job rotation	18	40	43
Formal training (inside)	41	33	27
Apprenticeships	17	27	56
Courses outside	19	50	31
Community colleges	8	34	58
4-year colleges	15	25	60
Private proprietary schools	4	15	81
Vocational schools	13	32	56
Computer-aided instruction	16	37	47

How to read this table: "80 percent of all firms responding to JCF's survey of Colorado employers reported that informal training was a very important training resource."

Source: Jobs For the Future, Inc.

- **Only one in four employers had used public sector sources of training.** The sources include four-year colleges and universities (27 percent), adult education programs (23 percent), or two-year post-secondary institutions such as community colleges (20 percent). Even fewer had made use of such resources as private industry councils, proprietary schools or the state customized training program. Four-year colleges and universities, two-year post-secondary institutions and the state customized training system received the highest marks among public sector trainers (Table Eleven).

Table Eleven

Use of Training Sources by Colorado Firms

Q: "My firm has used this training source in the past five years."

Source	Yes	Grade (if used) A	B	C	D	F
In-house staff	74%	31%	52%	17%	1%	—
Trade/professional group	58	30	53	16	1	—
Vendors (equipment)	44	22	45	28	3	1
Consultants	39	37	43	18	2	1
4-year colleges	27	34	49	14	2	1
Community organizations	25	23	46	26	4	2
Adult education	23	23	49	24	2	2
2-year post-secondary	20	28	49	18	3	2
Apprenticeships	20	24	44	27	3	2
Chambers of commerce	19	16	42	32	7	3
Secondary vocational ed.	16	20	44	29	6	2
Private industry council	9	29	37	22	6	6
Proprietary schools	8	30	51	16	—	4
State customized training	6	24	53	9	7	7
Labor unions	3	14	24	33	14	14

How to read this table: "74 percent of all firms responding to JCF's survey of Colorado employers reported that they had used in-house training staff within the last five years. Of these firms, 31 percent gave in-house training a grade of 'A' as a training resource."

Source: Jobs for the Future, Inc.

- **Many of those workers most in need of training, according to employers, receive less training than those workers reported now to have adequate skills.** Skilled, semi-skilled and service workers receive less training than do managerial, professional and technical workers, despite the fact that many workers in these areas need additional training. Responding to the same survey, Colorado employers reported skill deficiencies among the middle to lower level workforce, yet they indicated little effort to resolve their own apparent skills gap.

Field work and interviews with Colorado companies confirm this training gap. Many of Colorado's best companies have elaborate training programs for upper level workers and few, if any, training programs for lower level workers. Similarly, many large companies with significant numbers of contingent workers provide no training to such workers.

Employees Face Obstacles to Training.

In JCF's employee survey, over half of all Coloradans face obstacles to obtaining more training. Seventy-one percent of workers who had not received

any training in the last five years wished they had received some form of training. Thirty-two percent of these individuals said that the number one reason why they did not receive any training was because they could not afford it; 12 percent said they did not receive training because it was not provided on the job.

Seventy-one percent of workers who had not received any training in the last five years wished they had received some form of training. Thirty-two percent of these individuals said that the number one reason why they did not receive any training was because they could not afford it; 12 percent said they did not receive training because it was not provided on the job.

"Our employee reviews are used each year to talk about what training would be appropriate for the following year. We don't just review performance, but figure out how training can help someone do their job better."
—Strategic planner in a large high-tech company

Attitudes, experiences, and obstacles regarding training are not uniform for all Coloradans. JCF found differences between women and men as well as three distinct "profiles" of workers in the state.

- Men and women workers share many of the same beliefs and concerns about training, but women are generally less satisfied with their work situations and face many more obstacles to obtaining work-related education than men. This has significant implications, given the importance of women entrants to the future workforce.
- Women and men use different learning resources; men tend to use more college and trade groups for job-related training while women tend to use more community college, community organizations and public schools.

In addition to these differences, JCF found three profiles of workers that emerge from the survey data, "The Satisfied," "The Security Conscious," and "The Disenchanted." These profiles did not, in any way, correspond to occupation, economic status or level of education. JCF defined these groups as follows:

1. **The Satisfied.** These people (about 46 percent of the sample) are the most highly satisfied with their jobs and are least concerned about job security. They perceive the fewest obstacles to receiving training and are the least likely to report that they don't need training—yet they are also getting much of the training they feel they need or want. Satisfied workers appear to be doing relatively well and receive a disproportionate share of the training provided by employers.
2. **The Security Conscious.** These workers (about 30 percent of the sample) are the least satisfied with their jobs and are the most concerned about job security. They are also the most likely to advocate state and corporate intervention to increase training. They are in the middle in terms of perceiving obstacles to training and feeling negative about training programs.

   Security conscious workers feel the most threatened by economic change. Eighty percent of them agree that companies don't offer enough education or training. They tend to be at risk for job loss and stuck and bored in their

present positions. They appear to form a natural constituency for job training programs. They give the impression that they would gobble up whatever was provided, if there appears to be a direct and fairly immediate benefit like a promotion, a raise, or increased job security.

3. **The Disenchanted.** This group (about 24 percent of the responses) is somewhat less motivated to obtain training. They are much more likely to view training as simply too difficult to obtain—for instance, that training costs too much money and takes too much time and energy. They are also more likely to believe that they would attend training only if their employer required it.

   Disenchanted workers are the hardest group to reach with targeted programs. They are more concerned than others about the obstacles to training and education, especially the practical problems like child care and transportation. They are much less likely to attend training programs voluntarily and more likely to attend only while at work.

Table Twelve

Employees' Obstacles to Training or Education

Obstacles to training or education	Responses
Not offered at a convenient time or place	64%
Costs too much	51
Good training programs not available	41
No time or energy	33
Don't know what's available	30
Know what's available but not sure what to choose	29
Lack of child care	18
Lack of transportation	16

How to read this table: "64 percent of all workers responding to JCF's survey of Colorado workers reported that training courses or programs are not offered at a convenient time or place, and that this operated as an obstacle to attending training in the future."

Source: Jobs for the Future, Inc.

Policy Implications Concerning the Current Private Sector Learning System

Based on the research conducted over the past year, the following policy implications emerge.

1. **Colorado employers are underinvesting in building the skill levels of their workforce.** Both the amount and the kind of training provided by most Colorado companies needs to change. The American Society for Training and Development, after a two-year study of the best practices in private sector training programs across the country, recommends that

companies allocate 4 percent of total payroll to training and development.

Even this number, dramatically larger than the amounts spent on training by most Colorado companies, falls short of the level of training investment common in German or Japanese companies. America's chief foreign competitors also invest far more in their production level workforce. This is widely believed to be one reason for their superior product quality, flexibility, and lean managerial structures.

If Colorado companies are to be globally competitive, they must increase investments in their workforce and broaden the kinds of training to develop teamwork, problem-solving and other non job-specific skills important to high performance in a knowledge-based economy.

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2. **Colorado companies need to pay more attention to the gaps expressed between their practice of informal training and their employees' preference for more formal training.** In addition, it will be important for firms to understand how their own workforce divides among the groups JCF identified: workers generally satisfied with their training opportunities (46 percent in the general population surveyed by JCF); security-conscious workers concerned that training result in an immediate return to them (about 30 percent); and the disenchanted workers (about 24 percent) who face many barriers to getting training and feel alienated in their jobs. It is significant that these attitudes were not occupation-related. In other words, the large numbers of disenchanted workers included professional and managerial workers—not just the lower level workers who receive less training. A successful corporate human resource development policy must identify and target these different groups.

3. **Companies need to get a sense of which of the obstacles to training are most relevant to their particular workforce:** cost, convenience, need for child care. Many employees complained they lacked time or energy to attend training courses, despite overwhelming enthusiasm for continued training and learning on the job. Interviews with Colorado employers confirmed that this obstacle is real. They say that many workers, especially in companies and industries undergoing rapid change, competition and/or downsizing—simply feel stretched too thin to want or seek additional training.

4. **If Colorado companies decide to expand the amount and kind of training they offer, there appear to be two options: "making" the training by providing it internally or "buying" it from outside sources.** The survey results have interesting implications for public and private sector decision makers interested in encouraging companies to provide more training. For example, a small firm by itself probably lacks enough leverage with an institutional trainer to find a training program that has a perfect fit. However, training consortia or industry associations might provide enough of a niche

to attract customized training. Colorado's choice, then, is to provide incentives to encourage several firms to cooperate in meeting common training needs.

5. **On-the-job training is likely to remain a predominant source of training.** Rather than trying to buck this trend, decision makers should seek ways to improve the quality of on-the-job training—at the same time encouraging the growth of more formal opportunities employees seek.

6. **Employers clearly prefer to use private sector training providers such as consultants or trade and professional groups.** On the other hand, public sector providers are an important, cost-effective resource that more companies might use if (a) they were more aware of it, and (b) it were scheduled and delivered in ways more responsive to the companies' needs. This is especially true for small companies.

   There is a need to greatly expand the marketing efforts of public sector training programs. Interviews with employers indicate that the most effective way to do this will be direct contact (visits) with Colorado firms to diagnose needs and construct responsive, appropriately tailored training programs.

Hewlett Packard **of Loveland invests heavily in continuing worker education to stay competitive in the global computer and test equipment markets. HP provides a full array of in-house classes taught by HP trainers and outside instructors, and offers tuition subsidies and flex-time for employees taking courses at outside institutions. A new innovation is a computer system and resource center that allows employees to find out the skills and education they need to move up to a new position in the company. HP hopes this will offer non-management personnel a way to easily learn about what it takes to get a better paying job and encourage them to go for it.**

B. Learning in the Public Sector

Does Colorado have an effective public sector system for helping people identify and acquire the skills they need to have productive jobs and lives? Colorado has the pieces of a system. Many of these pieces, individually, are of excellent quality. But taken together they do not add up to an effectively integrated, coordinated, accessible, user-friendly, and accountable system.

The issues here are complex. They range from teacher pay and quality to local control over school districts to higher education financing and a host of other issues. We commend the many efforts already underway to identify and meet the key educational challenges facing Colorado. We do not pretend to be experts on all aspects of the system. Our purpose here is to tie together the

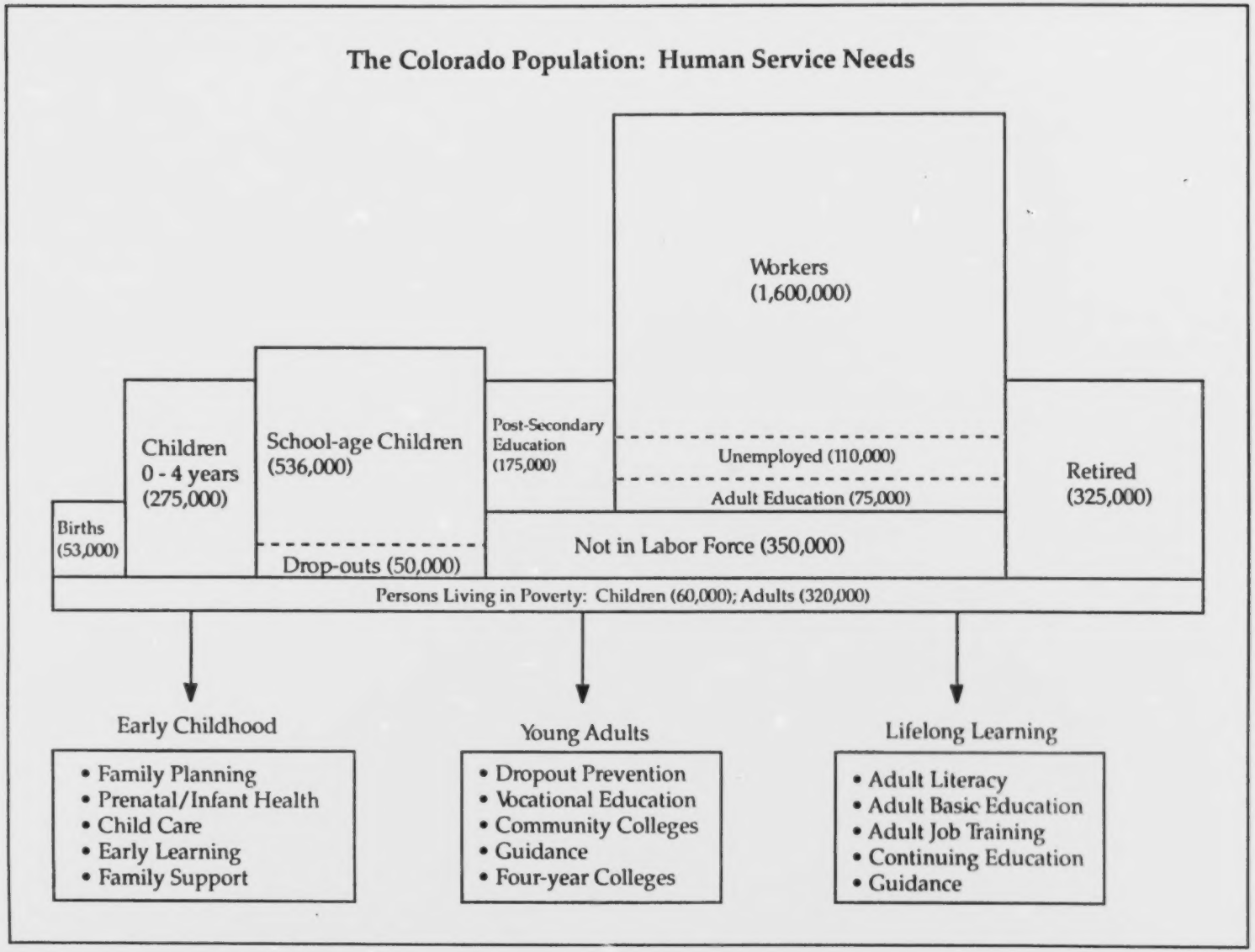
The Colorado Population: Human Service Needs
Workers
(1,600,000)
Children
0 - 4 years
(275,000)
School-age Children
(536,000)
Post-Secondary
Education
(175,000)
Unemployed (110,000)
Adult Education (75,000)
Retired
(325,000)
Births
(53,000)
Drop-outs (50,000)
Not in Labor Force (350,000)
Persons Living in Poverty: Children (60,000); Adults (320,000)
Early Childhood
• Family Planning
• Prenatal/Infant Health
• Child Care
• Early Learning
• Family Support
Young Adults
• Dropout Prevention
• Vocational Education
• Community Colleges
• Guidance
• Four-year Colleges
Lifelong Learning
• Adult Literacy
• Adult Basic Education
• Adult Job Training
• Continuing Education
• Guidance

Figure One

pieces and to assess whether they add up to an adequate lifelong learning system to produce the skills required for the future economy.

The Learning System: Who is in it, and how much does it cost?

Figure One depicts the "human service needs" of the Colorado population by looking at the relative sizes of age-group segments. The advantages of looking at the population in this way are twofold.

First, the population falls into three general categories of human service need: the early childhood period, vital to all Coloradans getting off to a solid start; the young adult period, important to both preventing high school drop outs and providing a smooth transition into post-secondary education or the workforce; and the adult learning period, lifelong learning that meets the needs of adults who don't usually participate in most traditional learning programs.

Second, the chart shows the large number of linkages that must be maintained in order to serve individuals throughout their lives. For example, a student enrolled in secondary education could move directly into post-secondary education, directly into the workforce, or choose not to at all. An individual in the workforce today may become unemployed or in need of adult basic skills education, job training, or other continuing education.

Colorado needs to understand what makes people flow through this system more efficiently, without encountering barriers and obstacles that force them into dropping out, into poverty, or into a poor match between their work skills and their jobs. What linkages really exist in the system? Do people have the right knowledge, information, and resources to negotiate through the state's institutions and programs to reach their desired goals? What role does the private sector have, especially as employers responsible for the products and services their workers create, to maintain workers in a learning mode throughout their careers? What is the price that Colorado must pay in support for drop outs, persons in poverty, and care for dependent senior citizens if the state does not develop the linkages and systems that this diagram suggests are needed?

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Lewis Perelman performed an analysis for the Western Governor's Association on the cost of the public sector learning institutions and programs that provides some key insights into the status of the Colorado learning system:

- Eighteen separate state agencies or programs provide education and training to Colorado citizens.
- Public investment totals about $3 billion each year. Private investment approaches about $1 billion each year. Investments in human resource development account for 60 percent of the state general fund expenditure and 35 percent of total state appropriations. The lion's share of these resources goes to traditional state education programs: K-12 education (45 percent), community colleges (5 percent), and higher education (15 percent). The combined budgets of these three programs account for 58 percent of the state general budget and a third of total state spending.

- All other education and training programs account for less than 2 percent of general fund appropriations and slightly more than 2 percent of total spending.
- Local governments spend an amount about equal to state spending, mostly in the K-12 category.
- Federal funds for education and training in Colorado constitute less than 6 percent of the total spent by state and local governments, but are often the sole source of funding in targeted areas such as job training for unemployed or disadvantaged populations.
- While at least as many adults are in need of basic education (455,000) as children in the state, over 99.9 percent of government expenditures for basic education are targeted on children aged 5-18.
- The private sector is not making up the difference. Forty percent of Colorado firms report spending nothing on education and training for their workers each year. Employers report that remediation for reading and math is a low priority. A major goal of state public policy efforts must be to encourage the private sector to increase its investment in work-related training and education.

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1. Early Childhood Education

A large and growing body of evidence clearly indicates that early childhood education is one of the most effective investments in providing a sound base for lifelong learning for all children, especially for at-risk populations. Early childhood education exposes children to learning during a developmentally-sensitive time in their lives, preparing them for the school system at an early age. It also helps them build their vocabulary, their self-esteem, and reduces the likelihood of that they will drop out of school. Yet Colorado has not met the challenge of securing this opportunity for all children.

The nationally acclaimed federal Head Start program targets economically and socially disadvantaged children. National studies demonstrate that Head Start students are better prepared for school, intellectually and socially, are less likely to need special education programs or repeat grade levels, and experience lower high school drop out rates. However, currently only 10,751 Colorado children are enrolled in programs, which is roughly equal to only 1 in 5 of all those eligible. Federal funding is inadequate to provide the program to all who qualify and according to a Ford Foundation study, Colorado was one of 23 states that make no state appropriations to the Head Start program. Eighty percent of those children most at risk are not receiving the early childhood education they require.

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In addition, Colorado is in danger of losing an estimated $10 million annually for preschool for handicapped children. Public Law 99-457 provides federal incentives of $1,000 per handicapped student if states mandate services

and provide matching funds for three and four year old handicapped children. This is a long term investment that Colorado cannot afford to miss. A study performed in Colorado clearly demonstrates that one out of every three handicapped children who enroll in preschool at the age of three will enter kindergarten without any handicap whatsoever. Yet Colorado is one of only six states that have not adopted this program.

The Preschool Program for Language Development Act (HB 1341) provides funding for 4 and 5 year old children who are in need of language development, and who will be enrolling in kindergarten the following academic year. Currently the Colorado preschool project serves 2,000 students with 24 different languages. Although there are no definitive studies that have determined the number of children who are in need of this program, the Department of Education estimates that as many as 8,000 children are eligible. Lack of funding for this program prohibits it from expanding to those populations who require it.

Superintendent Jim McCabe and his staff began a child care and early childhood education program in *Leadville*, CO with four goals:

1. **Start a preschool for all 2 1/2 to 5 years old children with a language-based curriculum. The program integrates handicapped children and offers a sliding scale-tuition for parents ineligible for state or federal programs.**
2. **Provide day-care for 2 and a half year olds from 5:30 am to 6:30 pm**
3. **Provide a before and after school program for 5-13 year olds.**
4. **Accomplish this without raising taxes.**

What makes this program truly exemplary is its incorporation of all factors in a child's development: prenatal and parenting classes, adult literacy programs for parents, speech therapists and other specialists, and curriculum designed to bring out the best in the child at his or her own pace. What makes it unique is its long hours, 365 days a year, to serve the Leadville population. Many Leadville residents work in the tourist industry, which requires the parent to be absent - even on Christmas. It is also affordable: the sliding scale tuition ranges from $.50 and hour to $1.50 an hour, including two meals and two snacks.

There are four dimensions that characterize an effective early childhood education system: accessibility, affordability, quality and variety (a range of options available to parents from private care providers to employer-based centers to publicly-supported systems). Colorado has gaps in most of these areas.

- **Accessibility.** Although there are excellent preschool programs offered throughout the state in the private sector, the public preschool programs are scattered and unequal. For example, some school districts are unable or unwilling to offer preschool programs of any nature. Others are taking ad-

vantage of federal and/or state funds to offer limited preschool to targeted populations. Still others are offering comprehensive preschool programs to all neighborhood children as far as their funding levels will allow.

While these efforts are an excellent first step, they are not nearly broad enough in scope. Children of the non-targeted populations, such as the working poor, often find that preschool is inaccessible to them. Children whose parents cannot afford the extra $100-$150 per month to send each child to a private preschool will be at a learning disadvantage to those children who are able to attend preschool. Studies have shown that this learning disadvantage affects them throughout their formative years.

Accessibility also includes both the ease with which a student can locate a preschool and the convenience of transportation to get there. The new generation of children moving through the system and the new widespread realization of the benefits of preschool results in a shortage of private and public preschool facilities across the state. Often, the local regulations regarding preschool facilities are so strict that it becomes uneconomical for new private preschools to start up without the backing of long-term investors such as the national child care and preschool corporations.

The importance of universal early childhood education is not yet reflected in the policies of Colorado as a state, or uniformly throughout the regions of Colorado. The addition to Colorado's education system of a preschool program that is available to all four year olds is a key factor in attaining a lifelong learning system and, ultimately, in attaining substantial dollar savings for our state.

- **Affordability.** Many parents are unable to afford private preschools, are unable to qualify for federally-assisted preschool (Head Start), and don't meet the targeted populations specifications for free preschools within the public system. The children of these families are denied the preschool advantage.
- **Quality.** There is little, if any, quality control over preschools, both from a content and from a safety standpoint. Because preschool does not fall under state educational guidelines, accountability for preschools is found at the local levels, if at all. This system allows preschools to function independently, without guidance or goals for the students.
- **Variety.** In larger cities and towns, Colorado has a good range of preschool programs to choose from, although most are private sector. Smaller towns do not have the advantage of larger student populations to provide a better variety. What is missing throughout the state is variety and opportunity within the public sector.

The Costs of Doing Nothing. The importance of universal early childhood education is not yet reflected in the policies of Colorado as a state, or uniformly throughout the regions of Colorado. The addition to Colorado's education system of a preschool program that is available to all four year olds is a key factor in attaining a lifelong learning system and, ultimately, in attaining substantial dollar savings for our state. For every dollar spent on early prevention and intervention, $4.75 is saved in remedial education and welfare costs. And as a bonus, we will be supporting and nurturing Coloradans to become qualified members of the new workforce instead of relegating them to the growing ranks of the underclass.

As a stop-gap measure to increase the availability of early childhood education until more adequate funding is secured, new partnerships could be formed where parents or nonprofit organizations could use empty classrooms in public schools to provide preschool at greatly reduced rates (such as the Commerce City model)—or on a sliding-scale basis—to all four year olds in the neighborhood. The disadvantage to this is that partnerships are only as good as the energy, enthusiasm, and funding behind them. Often the areas where early childhood education is needed the most are the areas where the socially disadvantaged or working poor are not able to contribute to the partnerships.

For every dollar spent on early prevention and intervention, $4.75 is saved in remedial education and welfare costs.

2. Compulsory Schooling (K - 12)

Like most states, Colorado has focused intense scrutiny on its K-12 system in recent years. The issues facing the K-12 system are complex, ranging from recruiting teachers, to improving management, to combating the drug problem. Out of a myriad of pressing problems, the JCF Action Plan focuses on three issues of particular importance for the competence of Colorado's future workforce: the mastery of basic skills; acquisition of the "new basic skills;" and drop out prevention.

Background.

Colorado's K-12 system performs unevenly. On the one hand, on standardized tests administered in the last year, Colorado scored well above the national average. Colorado students ranked 5th in college entrance exam scores nationally. And Colorado consistently ranks in the top 20 states in per capita expenditures for K-12.

On the other hand, the K-12 system loses 24 percent of students through drop outs and up to 25 percent of its graduates lack adequate basic skills. People in every JCF regional meeting expressed concern over the poor preparation of Colorado's young people. The outcomes for Anglos are much better than those for minorities. Fifty percent of all minority youth drop out before graduation.

"We always have to train entry level workers. Our high schools just aren't preparing kids with the math, reading and writing needed for high tech assembly."
A Human Resource Development manager at a
—high-tech manufacturing firm

Colorado Department of Education (CDE) and the Colorado Community College and Occupational System (CCCOES) are making many efforts to improve K-12 student options. Over 50 percent of 11th and 12th grade students participate in CCCOES approved and funded programs of vocational education. In addition, CDE and CCCOES support advanced placement programs for secondary academic and vocational students in community colleges. Work/

school based education for secondary school students (who are drop outs or potential drop outs) is provided by the special cooperative education program of the vocational education system. This includes specially designed and funded options for teen parents to keep them in school.

The administration of the Colorado K-12 system is done almost exclusively at the local school district level. An important implication is that changes that need to occur in the K-12 system in Colorado will have to take place within each school district— they cannot come from a state or regional mandate.

Challenges for the K-12 System: Mastering the Basics

The need for Colorado students to improve their basic reading, writing, math, and science skills is widely acknowledged by employers and educators alike. Much activity is under way at the state level that focuses on changes in performance of the system.

House Bill 1341, which was recently enacted, provides accountability at the local school district level. The legislation would allow each district to determine high but obtainable goals for its district in two areas: higher percentile rankings on test scores, and higher graduation rates. One interesting development from the accountability program is adoption by many school districts of a "guaranteed graduate" program. This effort guarantees an employer and the student that all graduates possess the basic skills associated with a high school degree, as determined by each district. If a student is deficient in any skills, the high school will be responsible for providing additional training until the student develops the necessary skills. Currently, about 18 percent of school districts have adopted the guaranteed graduate program—and the level is increasing every month.

Other significant programs exist to inspire and create changes in performance of the K-12 system. For example, Governor Romer has instituted the Governor's Creativity Initiative, designed to distribute grants of $5,000 each to selected schools as incentives for creative change at the school level. In addition, the Education Mobilization Council is assessing new ways to bring career education and business contact into the schools, especially the 7th through 12th grade.

Challenges for the K-12 System: Learning the "New Basic Skills". As creative as these individual programs are in addressing changes, programs by themselves are not broad enough in scope to address the systematic changes that need to occur to teach the new basic skills demanded by jobs in the new Colorado economy. It is critical that Colorado communities turn their attention to these skills since basic reading, math and writing skills alone will not be sufficient for career advancement.

Developing the "new basic skills" demands a different approach to teaching, learning and testing than does the rote mastery of specific subject matter. It requires students to play an active role in devising problems, as well as solving them. It requires teaching underlying principles that help students recognize

and solve related problems. And it requires teachers who emphasize group performance, communication and problem-solving skills as well as individual performance on discrete tasks.

It is particularly important that such teaching approaches be instituted for grades K-3. The learning environment in the early grades should be restructured so that it is more consistent with the developmental stages of young children. This includes, most importantly, learning by more active exploration than by the traditional abstract conceptualization.

Local districts that want to make the changes described above confront several major obstacles. First, standardized tests do not assess the new basic skills. Rather, they test for the old models of education. Until these tests are changed or abandoned, some school districts will be cautious about appearing as if their test scores are dropping, even while they are improving the quality of their education.

Second, the district budgets do not include funds for a systematic overhaul of their education delivery system. New curricula need to be developed or identified to teach the new skills. This task costs school districts in both labor and capital. The current budgetary system does not allow the extraordinary extra expenditures required by a complete systematic overhaul.

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Challenges for the K-12 System: Preventing Future Drop Outs. The drop out problem is not new. Some negative consequences include:

- The number of jobs available for applicants with less than a high school diploma has declined steadily in recent years.
- JCF research indicates that employers in Colorado would rather invest money into screening out applicants without a high school degree and basic skills than in training applicants who lack them.
- During the last recession in Colorado, the people with the least education suffered the most from reduced job opportunities and lower wages.
- The highest drop out rates are for minority students, and minorities are the fastest growing segment of the workforce. Without intervention, drop out rates will have far-reaching implications for the quality of Colorado's workforce.

Early identification and intervention is the most important action that can be taken to prevent drop outs. For the many students who have moved through the system without early intervention, Colorado must do everything possible to make their school-to-work transition easier. Creating opportunities for high school graduates in their local communities can motivate kids to stay in school.

The Colorado Alliance of Business recognized this principle in 1984 and developed the School-to-Work Action Plan (SWAP). SWAP has increased the hands-on training and contributed to the self-confidence of high school students enabling them to make a successful transition to a career or post-secondary education. The program is now serving more than 1,200 students state-

wide in communities as diverse as Alamosa, Colorado Springs, and Greeley.

Leadership programs offer yet another solution. In Denver, Viziones Hispanica has instituted the Hispanic Leadership Denver program, aimed at high school students, that not only teaches the qualities of leadership but also requires that each student complete two community projects before receiving a leadership certificate. Participants in JCF's Southern Colorado workshop identified leadership programs and community activities as two of the most important factors in keeping their students in school.

3. Higher Education

The higher education system represents a critical resource for Colorado's future. It plays a role in developing an informed citizenry, in occupational preparation, and in economic development. Indeed, over half the jobs created between now and the year 2000 will require some post-secondary education. In addition, the research and development activities of the state's colleges and universities will fuel the growth of Colorado industries.

The Higher Education System. The higher education system in Colorado consists of 13 private institutions and 28 public institutions. Under the Department of Higher Education, six governing boards are responsible for distribution of state funds. Institutions include: four doctoral granting universities; one limited doctoral granting university; three comprehensive masters granting institutions; two professional schools, and fifteen community or local district colleges.

The majority of higher education institutions are located in the Front Range and Western Colorado. The Front Range claims 81 percent of higher education enrollment in Colorado and is home to 9 four-year and graduate schools and 7 community colleges. Western Colorado has 4 four-year colleges and 2 community colleges. Eastern Colorado has three community colleges but does not have access to advanced higher education institutions and Southern Colorado has two community colleges, one area vocational school and two institutions providing four year and masters degrees.

Participants at JCF's community outreach regional workshops expressed the need for a wider range of educational access in their areas to promote skill upgrading and lifelong learning. Eastern Colorado, the region which has experienced the highest out-migration rate in Colorado, identified the need for long distance learning in higher education programs. The trend toward distance learning is beginning to take effect in Colorado; in fall of 1989, Colorado State University begin offering an MBA degree via cable TV.

In 1980, minorities accounted for 17 percent of Colorado's total population. Yet, in 1987, minorities comprised of only 12 percent of the total enrollment in Colorado's higher education system.

The degree to which institutions of higher learning are serving the needs of minorities and women—the two fastest growing segments of Colorado's future workforce—is also important to consider. Women will account for 54 percent of the workforce between today and the year 2000, while the minority workforce is expected to grow by about 18 percent. Because higher skill levels will be

required of all groups in the labor force in the future, policies for women and minorities need to emphasize the importance of higher education.

In 1980, minorities accounted for 17 percent of Colorado's total population. Yet, in 1987, minorities comprised of only 12 percent of the total enrollment in Colorado's higher education system. Even more telling, however, is that minority students were more often awarded lesser degrees in these institutions. While minorities received over 18 percent of certificate degrees in 1987, they were awarded only 8.5 percent of baccalaureate degrees, and a little over 6 percent of master's degrees. This gap must be narrowed for minorities to participate equally in the workforce.

School District 51 in _Grand Junction_ has found an innovative way to help young people develop skills, confidence, and save the school district money in the process. The local high school has helped problem youths build modular housing for the school system, and start and run a restaurant for other students. Teenagers learn skills and confidence they can't get from traditional classes.

The number of part-time and older students in Colorado institutions of higher education has also increased dramatically over the past two decades as more and more students combine work and school. While many of these students complete their degrees, others never do. Today, only 50 percent of students who enter 4 year colleges and universities are expected to receive a degree within 5 years. The scheduling, tuition assistance, and other policies of higher education institutions need to accommodate these new realities.

4. Colorado Community College & Occupational Education System

Community colleges are widely recognized as one of the most innovative and flexible resources states have to meet a variety of community, workforce preparation and economic development needs. By definition, community colleges exist to meet the needs of the communities in which they are located. Although community colleges are a part of the Colorado Commission on Higher Education, we feel that their unique relationship to workforce development requires special consideration.

The Colorado Community College and Occupational Education System (CCCOES) attempts to meet two inter-related goals: develop Colorado's human resource potential; and contribute to the state's economic growth and vitality. These goals are addressed through the system's education and training activities. While education is the primary mission of the system's institutions, job training and retraining are key complementary activities.

Within the past three years, the system has emerged as a leader in preparing Colorado's workforce for future jobs. To this end, state policymakers have

asked CCCOES to consider a diverse group of issues, including workforce training—both skills upgrading and basic skills preparation, customized training, welfare reform, small business development, and even international trade. While CCCOES takes pride in its leadership role in these policy areas, institutional barriers exist that may preclude sustained success. These barriers center on how the community college curriculum is funded.

Community colleges receive funding through the Full Time Equivalency (FTE) funding mechanism. The current structure of funding under FTE is a disincentive for continued job training of the workforce. Currently, community colleges receive state funding based on the number of full-time students they enroll. Community colleges receive substantially more money for full time students than for students enrolled in continuing education courses or work-related courses. This means that community colleges have more of an incentive to add three new traditional courses, for example, than to provide non-degree training to local employers and workers.

Karen O'Conner, a customer relations officer at City Market, in Grand Junction, participated in the *Grand Junction High School Program of "Distributive Education."* The program allowed her to leave school early and work 8-12 hours a week. "Lots of young people would take advantage of this opportunity, particularly if they could make some money," Karen believes. "The one mistake with my program was that class work and real work did not complement each other. Ideally they should be combined."

The Structure of CCCOES

The Colorado Community College and Occupational Education System is the designated state agency for vocational education and as such administers the federal Carl Perkins Act ($10.5 million in 1989-90). Administration of these vocational education funds provides support to vocational education programs in secondary schools in over 150 school districts throughout Colorado.

In addition, the System is the regulatory agency for proprietary schools in Colorado. In this capacity, System staff license and regulate approximately 135 proprietary schools that provide specialized vocational training in Colorado.

During FY1989, the System served 24,872 full time equivalent (FTE) students at its community colleges and expects an increase of 13.7 percent for 1989-90. Fifty-seven percent of community college students are over the age of 26, and 60.4 percent are women. The ethnic diversity of students is fairly well representative of the colleges' service areas.

Some CCCOES Programs

Jointly administered by the System and the Governor's Office of Economic Development, the Colorado FIRST program provides training assistance to encourage new firms to locate in Colorado or to help existing companies expand

in the state. The ability to guarantee new or expanding firms a well-trained local workforce to meet their specific needs has proven to be a key economic development incentive. In 1989, Colorado FIRST received $1.7 million for funding.

In addition, the CCCOES recently inaugurated the **Existing Industry Retraining Fund (EIR)**, a pilot program to retrain workers for firms affected by rapid technological change or for firms where training is crucial for worker retention. The program was created to combat the traditional practice of laying off workers who lacked the skills necessary to upgrade technology. EIR is of great importance to Colorado because of its focus on existing firms and because it is an incentive to increase the amount of training that takes place. The State Board of Community Colleges and the Office of Economic Development received a total of $300,000 in funds for the first year of the program. At this time, however, EIR is out of funds.

In other states, customized training budgets are typically ten times the amounts allocated in Colorado for the FIRST and EIR programs.

In other states, customized training budgets are typically ten times the amounts allocated in Colorado for the FIRST and EIR programs. Missouri, for example, has more than $10 million available for classroom or on-site training. Indiana's Basic Industry Retraining Program and Training for Profit exceed $17 million.

The **Small Business Development Centers (SBDC)** is a cooperative effort between CCCOES, the Governor's Office of Economic Development, and the U.S. Small Business Administration, Small Business Development Centers. The centers have been established at fourteen community colleges and area vocational schools throughout Colorado.

The Small Business Development Network provides assistance to business owners, managers, and people interested in starting their own business. The Network offers free counseling tailored to the needs of individual businesses in the area of business plan preparation, marketing and sales, legal issues, and personnel and human resource issues. The Network's goals are to increase the number of successful small businesses in Colorado, and in turn, create additional jobs.

5. Governor's Job Training Office and Job Training Coordinating Council

An integral component of Colorado's training portfolio is the Governor's Job Training Office (GJTO), which provides clients throughout the state with basic education to assist them in entering the workforce and obtaining productive employment.

The JTPA program in Colorado is funded by the U.S. Department of Labor, without the benefit of any state funds. The program is managed by the Governor's Job Training Office with oversight from the Job Training Coordinating Council.

The JTPA program targets a variety of specific worker populations. These

include disadvantaged youth and adults, welfare clients, older citizens, offenders, handicapped, displaced homemakers, veterans, refugees and dislocated workers. The total number of clients served in 1987 totaled 32,909—nearly 3/4 of them in the Front Range. Services provided are roughly equal among the regions relative to client and population base.

Service is provided to the regions through ten service delivery areas (SDA), with oversight by ten Private Industry Councils (PIC). The local delivery system allows for greater understanding of and response to local population and private industry needs, as well as local coordination of training efforts. Many studies of the specific workforce needs are performed by the local SDAs.

At the present time, the structure and funding leaves the GJTO largely unresponsive to the hard-core unemployed and welfare populations in Colorado. The amount of money spent per client would need to increase substantially if concentration was placed on these populations. It is unrealistic to expect the GJTO alone to target these populations without a dramatic funding increase and an expanded time frame for each client's delivery into the work place, given the poor basic skills and the need for remediation. Rather, the new comprehensive approach, involving multiple agencies as support groups, is being adopted in SDAs, such as Denver, to address this segment of the workforce.

6. Adult Basic Education

It is estimated that 455,000 Colorado adults aged 25 and over lack a high school diploma. Of growing concern is the increasing number of adults without an eighth-grade education. The 1990 estimate for Coloradans without an 8th grade education is 225,000, up from 191,000 in the 1980 census.

Mesa College, near Grand Junction, has developed innovative training responses to local employer needs. The School of Industry and Technology runs 31 post-secondary trade programs. For example, a consortia of small contractors, equipment suppliers, and tool suppliers came to Mesa looking for help in training journeymen/linemen for the electric industry. Mesa worked with the employers and developed 2 short training programs. Mesa has also gotten national recognition for their work with firms like Sunstrand and Quality International who have relocated in Grand Junction.

Adult education programs are coordinated under the Adult Literacy Commission and provide classes and/or tutoring for adults in basic skills, including elementary math, GED preparation, and English as a Second Language. Literacy programs are primarily community based, library volunteer programs that provide classes and/or tutoring for the 0 to 6th grade levels and community colleges. Over 70 local programs in 146 communities are participating in adult education delivery.

Estimates of Functional Illiteracy
Among 275,400 21- to 25-Year Old Coloradans, 1990

Levels of Functional Illiteracy	Proportion of Total Population	Number
Cannot state in writing the argument made in a lengthy newspaper editorial	3/4	200,000
Cannot use a menu to compute the cost of a specified meal and to determine the correct change from a specified amount	2/5	105,200
Cannot use the index in an almanac to locate information	1/5	60,000
Cannot total two entries on a bank deposit slip	1/8	33,350
Cannot match money-saving coupons to a shopping list of several items	1/25	10,000
Cannot locate information found in a single reference in a newspaper article of moderate length	1/33	8,000

How to read this table: "200,000 Coloradans between the ages of 21 and 25 (three-fourths of all persons in this age group) cannot state in writing the argument made in a lengthy newspaper editorial."
Source: Colorado Department of Education

Twenty-two thousand adults were served through these programs in 1989, 9,200 of whom received GED certificates. Other adult education programs exist in the private sector and are delivered through the community college system.

Despite the problem of adult literacy and the implications for Colorado's future, there is little state funding appropriated for adult literacy problems. House Bill 1125 was passed by the Colorado Legislature in 1989 and creates an adult literacy fund which is housed in the Office of Library and Adult Services. The Act legislates the need for $200,000 but *does not fund it from the state general fund*. Rather, the Office of Library and Adult Services is responsible for raising the fund through donations.

Currently, adult education courses throughout the state are funded almost exclusively through federal funding. Federal funding levels in 1989 were $3.25 million. Over half of those funds ($1.7 million) were Amnesty funds that specifically target illegal aliens. These funds will be discontinued in 1992. Only 2.18 percent of those funds ($71,000) are state funds, used to finance GED training.

Two major policy implications arise from the literacy problem in Colorado: First, Colorado needs to step up the outreach effort and provide better motivational tools to the functionally illiterate to increase the participation rates in the

Unisys has linked with area education providers and other local employers to prepare new workers and upgrade current workers' skills. *Pueblo Community College* runs a two-week training program for JTPA eligible individuals that then are employed by Unisys. *The University of Southern Colorado* also offers college courses at the firm, open to Unisys and other companies in their industrial park. Unisys helps out with employee tuition. "We encourage our employees to take these courses, we know the investment pays off in the long-run," says Gene Wilcoxon, Skills manager.

adult basic education programs. Unless we increase our literacy rates, we will continue to add to the illiteracy figures instead of reducing them.

Second, Colorado needs to provide additional funding to accommodate those needs. Colorado, as a state, needs to set an example for literacy funding by providing at least matching funds to those who contribute to the Colorado Literacy Fund of House Bill 1125.

Policy Implications Concerning the Current Public Sector Learning System

1. **Colorado needs an integrated system of learning, where each part of the system is articulated with the others.** This means transferability of credits between institutions and easy transitions between work and learning institutions.

2. **A comprehensive "learning system" can only begin at the local or regional level because educational resources are controlled at the local level.** Developing a statewide learning system is by necessity a "bottom-up" process. Developing a coherent and coordinated system around the state will require extensive communication between the state and the regions and between the regions themselves.

3. **The state needs to invest its resources in the segments of the learning system which require most support: preschool, adult basic education, and work-related training at community colleges.**

4. Colorado needs to **"train the trainers."** Educators need to learn new teaching methods in order to teach the new basic skills.

5. **There is no central coordination or accountability in the existing learning system.** More than a dozen agencies administer educational programs throughout the state. Recently a number of education initiatives and legislative reform at the federal level have been introduced that create a window of opportunity for restructuring and coordinating the system. This opportunity should be seized before the new programs become entrenched within an existing bureaucracy.

6. **Colorado's learning system has not effectively integrated the needs of business.** In order to understand real workforce needs and to anticipate

Two major policy implications arise from the literacy problem in Colorado: First, Colorado needs to step up the outreach effort and provide better motivational tools to the functionally illiterate to increase the participation rates in the adult basic education programs. . . . Second, Colorado needs to provide additional funding to accommodate those needs.

and help solve workforce problems, the learning system needs to have closer and more systematic contact with Colorado businesses. Effective communication between the public and private sectors requires a formal, sophisticated system rather than ad hoc good intentions.

> **Despite the regulations of the delivery programs, the Governor's Job Training Office has proven innovative in its approach to training. One approach, *the Skills Training for Environmental Programs (STEP)* recognized the explosive growth in the hazardous waste industry in Colorado and developed a program for placing unemployed Coloradans into the seven thousand new jobs anticipated by 1990.**
>
> **The program used a cooperative approach with other training agencies and the private sector to maximize the outcome. Instead of training exclusively in traditional industries, GJTO is fostering economic development by providing trained Coloradans in a rapid-growth industry identified as a key component in Colorado's future.**

7. **The state lacks an institutionalized system, funding or incentives for encouraging Colorado's community colleges to do the best possible job of providing training to meet employers' needs.** The success of any community college system in this field today depends on the entrepreneurial skill and fervor of its administrators. Many institutions and programs in Colorado well serve regional and local business needs; however, the record is not consistent enough. This is a serious liability in meeting future workforce challenges.

V. The Jobs for Colorado's Future Action Plan

The only security for Colorado in today's world is for every Coloradan to be able and willing to understand and adapt to change. For Colorado to be competitive, the state must act now to assure that every region, every community and every person be prepared to compete in the ever-demanding, ever-changing global economy.

This report presents the results of Jobs for Colorado's Future (JCF) year-long examination of the nature of changes happening in Colorado, the effects they are having on our economic development, and what must be done to assure a competitive future. Our conclusion is that Colorado is today at a crossroads. A crossroads where certain actions could prepare us to meet the future or where failure to act could perpetuate trends that threaten our basic economic security.

Colorado is poised to take advantage of a world economy that relies more than ever before on intelligence, creativity, and innovation. On the whole, Colorado still has a better educated workforce than the rest of the country. Colorado has much stronger growth in high-technology industries, especially in manufacturing and communications. Colorado is uniquely situated to become the "service capital" of the West—the communications, transportation, and financial hub of the Rockies. The state is also growing as a tourist and retirement destination. Colorado has a wonderful climate, natural beauty, strong communities, and quality of life that makes it an attractive place to live and do business.

Three Mismatches

To meet its promise, Colorado must deal with three mismatches between what Colorado needs for a competitive economy and what Colorado currently has. These mismatches were derivedifrom the data presented in the previous chapters.

I. **The Regional Mismatch:** Colorado's regions differ profoundly in composition, personal income, skill level, culture, and outlook. Comments by Colorado citizens in the JCF regional meetings and focus groups emphasized these differences.

   To guarantee all Coloradans' participation in the future, we must address the growing disparities between our regions. In 1986, the average earnings

in the Front Range increased to 34 percent higher than the rest of the state. And JCF heard concern about region inequities in educational and job opportunities.

II. **The Skills Mismatch:** To compete in an international economy, many Colorado firms must invest in new technologies, new production methods and new systems of business organization. These changes require new and broader skills from workers.

Employers told JCF that many of today's workers do not have the skills needed, and workers told JCF that they often cannot get the training they need. This situation is one aspect of an emerging skills gap which is further complicated by shrinking numbers of middle income occupations. As a consequence, income levels of Colorado families are diverging with the more educated households doing much better than the rest.

III. **The Learning System Mismatch:** The new economy demands continuous world-class education, for all ages, in a learning system provided by the public and private sectors. Colorado's learning system is not meeting this criteria and consequently, it is not bridging the growing skills gap.

Today, people find that adult education resources are not always allocated according to need. Many of Colorado's future workers—often women and minorities—do not have the opportunities to obtain and to develop the skills they need for work. The K-12 system is not preparing all students with the breadth and depth of knowledge that they need. And small business employees are often left out of continuing education opportunities that employees of large companies receive.

JCF proposes that Colorado act now to develop the best educated workforce of any state in the nation, or any country in the world, through initiating three Action Agendas to eliminate these mismatches. Implementing these agendas will require a commitment of energy and resources from all sectors. These agendas include:

Action Agenda I.

The Regional Mismatch: *Develop and implement community action plans for human resource development.*

Action Agenda II.

The Skills Mismatch: *Bridge the skills gap by targeting training for adult workers, the economically disadvantaged, and small business employees.*

Action Agenda III.

The Learning System Mismatch: *Create an integrated, flexible lifelong learning system that meets high standards of excellence.*

While these three action agendas provide the long-term action priorities for Colorado's workforce development strategy, Jobs for Colorado's Future recom-

Priority Action

For the State: Create a Human Capital Strategy Board (HCSB).
Currently, education and training are provided through numerous education governing boards, community groups, and private industry without the benefit of guidance from a statewide strategic planning body. The HCSB should be established to evaluate the education and training needs of Colorado, reduce duplication of effort, and encourage greater coordination and services from public, private and non-profit organizations. The board would develop strategic plan based on many of the recommendations presented in this action plan. The HCSB should be comprised of public officials with existing program responsibilities and of private sector leaders representing industry associations, the American Society for Training and Development, and individual companies.

Such a board would provide Colorado with a mechanism for stimulating and coordinating action over the long-term. The HCSB would, for example, take the lead on such JCF action agendas as: defining and incorporating new outcomes for education; establishing more comprehensive training programs for the disadvantaged; establishing one-stop intake and assessment centers, advocating for improved articulation and coordination between different levels of education and training, developing transition skills portfolio and alternative credentialing; ensuring easier access to education for adults; and expanding and improving counseling services for all ages.

For Communities: Begin workforce development efforts now.
Communities can initiative important action today, without waiting for the state to lead the way. Most importantly, communities can develop action plans that assess strengths and weaknesses of the education and training system, and come up with targeted action—whether it is improving availability and assistance for early childhood education or setting up an adult learning center. Communities can also put together local Human Capital Strategy Boards. Development efforts could include providing early childhood education, eliminating adult illiteracy, creating work place-based apprenticeship programs for young people, improving articulation agreements, incorporating the new basics into all curricula and beginning regional problem solving and coordinating efforts. The Jobs for Colorado's Future workbook, *Developing a Competitive Workforce*, can be a valuable tool to help communities as they undertake these efforts.

For Businesses: Improve training, especially for small business.

Businesses must make a concerted effort to increase the quality and quantity of private sector training, especially for small business at the skilled and semi-skilled levels. Small business employ the majority of Colorado employees and account for much future job growth, but are typically too limited in resources and time to train employees in the ways that they would like.

Small business owners and managers should take the initiative to identify training needs, seek help and collaborate with each other and industry associations to meet common needs. Large businesses should make training resources and expertise available to small companies, using public education facilities as the major delivery vehicle.

For All Sectors: Begin a communications campaign.

The state, businesses, communities, and education and training leaders should pursue a communications campaign to reach all Coloradans on the workforce development challenges and the Jobs for Colorado's Future recommended Action Agendas. Top policy leaders need to speak with a unified voice about the changes in the work place and what individuals, communities, and private businesses must do to secure continuous employment at an adequate wage. Coloradans need to understand how the evolving economy will affect them personally in the next decade.

- Individuals must understand that the income gap will continue to widen and that, on average, people with the most education and training will receive the greatest financial rewards.
- Communities need to recognize and act on the necessity of building a learning system that secures for all of their residents skills required for the good new jobs.
- Private businesses need to understand the options available for training and the necessity of providing training to all of their workers.

This communication campaign must address all Coloradans through workshops, speeches, educational publications, substantive media coverage, and other means. Key groups include school boards, editorial boards, local economic development organizations, state business organizations, and community-based organizations.

Jobs for Colorado's Future will kick off the communications campaign with a day-long conference followed by six regional workshops across the state. In addition, a speakers bureau is being developed to address groups upon request.

mends an immediate communications campaign to motivate quick statewide response.

Immediate Action for all Sectors: Begin a communications campaign.
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The two page Priority Action spread highlights priority actions that must be taken by the state, communities, businesses, and the education and training sectors. These initiatives are also presented in the overall action agendas that follow.

Action Agenda I. The Regional Mismatch:

Develop and implement community action plans for human resource development.
The research of Jobs for Colorado's Future, as well as experience across the state, indicate that communities best able to attract or grow new, globally viable industries share several key ingredients: leadership, the ability to work together to define and meet common goals, and high workforce skills. The quality and breadth of educational opportunity in a community is one of the most important resources it has for building and maintaining workforce skills. The Jobs for

Colorado's Future research demonstrates, however, that educational opportunities are not equal in all regions of the state. Understandably in Colorado, the large Front Range cities offer the most comprehensive educational resources, and smaller, rural towns offer the least. Addressing this gap is one of the most important efforts Colorado can undertake.

Action must be taken at both the community and state levels.

Action must be taken at both the community and state levels. Colorado communities must take the lead in building their own futures. The state has a responsibility to support local efforts, to encourage regional collaboration in meeting mutual community needs, and to create an active partnership with regional and local interests.

■ Community Action

Develop local action plans.

Communities must undertake efforts to analyze their strengths, weaknesses and the forces affecting their economies. They must identify the public and private institutions that will offer the education and training to teach and credential the skills needed in the new economy and to assist learners in making appropriate educational and occupational choices. They must develop comprehensive strategies for increasing the skill levels of their workforce. They must identify and marshall available resources to meet the goals they set.

To assist communities in beginning this work today, Jobs for Colorado's Future has prepared a community workbook, *Developing a Competitive Workforce*, which defines a step-by-step process communities can use to develop their own action plans. We encourage leaders and citizens in every community to use the workbook or other methods to create a workforce development plan that will work for them.

■ Community Action

Initiate regional collaboration and resource pooling.

Communities can meet many problems working alone, but many problems, from waste disposal to top quality educational programs, can best be met through pooling the resources of several communities. Such collaborative efforts are already underway in many parts of the state and should be expanded.

■ Business Action
■ Community Action

Develop local Human Capital Strategy Boards.

Communities can establish local human capital strategy boards to plan, coordinate and review how public and private dollars are spent at the local level for human resource development. These boards would determine how to allocate money based on their assessment of local need. They would establish cooperative relationships among all providers and users of education, including agreements to formally recognize and credential the learning students acquire

(see State Action below). The Jobs for Colorado's Future community workbook, *Developing a Competitive Workforce*, identifies a step by step process for communities to plan action items such as a local Human Development Strategy Board.

■ State Action

Make community-based human resource development an explicit strategy of state economic development policy.

Workforce characteristics are at the top of the list of factors considered by companies thinking about moving to a new location. The availability of a skilled and educated workforce is ranked number two out of a list of ten incentives, with number one being a good labor relations climate. The state of Colorado 5-year Strategic Plan for Economic Development has identified the need for a world-class education system, and the Office of Economic Development and Department of Local Affairs should focus some of their efforts on encouraging local communities to upgrade the skills of their workforce.

■ State Action

Encourage local innovation in education and training.

Just as successful economic development is ultimately driven by local action, successful education and training for all people at all levels can happen only because of local educators. The state can, and should, set broad guidelines for performance developed through a statewide consensus process. Local institutions should still maintain responsibility and autonomy in how they choose to achieve the new performance standards. One excellent example of local autonomy in Colorado is a statute which enables the State Board of Education to issue to local school boards waivers from state regulations to try new, innovative, or pilot programs in their districts. Options for increasing local autonomy might include:

- provisions to allow resource carry-over from year to year so institutions do not have to rush to spend funds at the end of the fiscal year for fear of cutbacks in successive years;
- incentives that reward institutions based on performance and outcome. Work is already underway in the Colorado Department of Education which seeks funding for incentive awards for excellent schools in the K-12 system. Such incentive awards could also be used by Colorado Commission on Higher Education to promote innovative institutional responses to the new challenges to post-secondary education for the adult worker.

Action Agenda II. The Skills Mismatch:

Target training for adult workers, the economically disadvantaged, and small business.

Good new jobs require broader skills. But too many Coloradans lack the skills necessary for these new jobs. Wage and earning trends tell us that Coloradans

must have the skills that will attract and maintain good jobs to secure a good standard of living. As the previous chapters indicate:

- Good new jobs require higher skills.
- The people who need training most are receiving the least.
- 62% of occupational growth in Colorado from 1980 to 1988 was in occupations requiring higher levels of education.
- 28% of Coloradans say they need help in basic skills to do their job better.

Wage and earning trends tell us that Coloradans must have the skills that will attract and maintain good jobs to secure a good standard of living.

If Colorado is to build and maintain a globally competitive workforce, action must occur on many fronts —from early childhood through retirement. The Jobs for Colorado's Future research, however, reveals three critical areas in which intervention will have the greatest impact on strengthening Colorado's economy. These are:

1. **Meeting the skill and training needs of the adult workforce.** Seventy-five percent of the workforce that will be working in the year 2000 is already on the job today. Therefore, the current restructuring efforts in the K-12 system, while essential for our future, will not immediately close the critical skill gaps that we have identified. Education and training institutions, businesses, the state, and communities all have a role in building the skills of the adult workforce. These roles are discussed as initiatives below.
2. **Increasing opportunities for the economically disadvantaged.** The number of new workers entering our workforce is shrinking, and the participation of minorities and women is on the rise. Colorado cannot afford to lose one worker due to a lack of skills. Efforts need to be made to reach those who have had poor access to education and training in the past—minorities and the economically disadvantaged.

   These efforts are critically important today. There is more competition for entry level jobs, less money to provide the remedial programs and support services that enable the economically disadvantaged to make the transition from dependency to self-sufficient employment, and many available jobs demanding higher level skills. The returns—in terms of reduced welfare, Medicaid, emergency housing and human costs—will far exceed the investment.
3. **Expanding the quantity and quality of training available to small business employees.** The health of small businesses is critical to the health of Colorado's economy, and the quality of the small business workforce is critical to the health of small business. The state and the private sector must work together to help small businesses provide needed training for their employees.

Actions for closing the skills mismatch for these three target populations are discussed below.

1. Adults

- **Business Action**
- **Community Action**
- **Education and Training Action**

Recognize and incorporate the new basic skills in education and training curricula from cradle to grave.

The new basic skills, as defined by the American Society for Training and Development, must be incorporated into all education and training courses. These skills include: learning to learn; competence in reading and writing, math computation; communication—oral and listening skills; problem solving; creative thinking; personal management skills; teamwork; and leadership. Ninety percent of Colorado employers surveyed by Jobs for Colorado's Future agree that these skills, with the addition of computer literacy, are the new skills needed in the work place. Governing boards of schools and universities, businesses and communities can act now to be sure their students, employees, and citizens are receiving training in these skills throughout their lifetimes.

- **Business Action**
- **Education and Training Action**

Establish sustained linkages between education and training and the business community.

Communication between education and training institutions and businesses in Colorado is not uniform or strategically focused. The growth of business and education partnerships across the state shows promise, but too many of these partnerships concentrate on solving short-term problems in the schools, especially in the K-12 system.

Colorado's public and private sectors, ... must create sustained, structured communication that targets the best actions for long-term gain by both sectors.

Colorado's public and private sectors, around the state, must immediately work together to address the skills mismatch of the adult workforce. They must create sustained, structured communication that targets the best actions for long-term gain by both sectors. Without sustained communication between business and education at all levels, we will not have solved the problem of keeping our workforce skills up to standard.

This strategic, cooperative focus can easily be incorporated into the Business-Educator Clearinghouse suggested in the Governor's Draft 5-year Economic Development Strategic Plan.

- **Education and Training Action**

Accommodate the needs of the adult learner.

Today, adults represent more than half of the college enrollment in Colorado. Because the knowledge and skills base of jobs are increasing, over half of all new jobs in the 1990s will require at least two years of post-secondary education. In addition, because our workforce is aging, the trend for adult learning in higher education is expected to increase. The Jobs for Colorado's Future survey of employees indicate that significant obstacles to obtaining additional educa-

tion and training exist. For example, 64 percent of workers state that classes are not offered at a convenient time or place. For these reasons, Colorado's institutions of higher education must collaborate with students and employers to improve the quality and access of classes for adult students and the new workforce. This may mean adding more evening and weekend courses, delivering more courses off-site, and providing child care.

■ Business Action

Encourage basic skills training and provide opportunities on the job.
Eighty percent of Colorado employees prefer to obtain their training on the job. Businesses, therefore, have the opportunity to offer remedial training at the best times for their employees. They can also provide incentives for completing training and aggressively hire graduates of basic skills courses.

■ State Action

Develop data base and commit more state funds to adult literacy efforts.
Before we can add new skills to Colorado employees, they need to possess a set of basic skills: reading and math comprehension. The total number of functionally illiterate in Colorado is staggering; however, a current, detailed data base is needed to determine the depth and extent of the problem by region and population group. The Colorado Department of Education or the Adult Literacy Commission should take the lead in designing and implementing a research effort to develop this data base. The legislature needs to acknowledge the importance of this issue to the state at a minimum by providing funding of $200,000 to the Colorado Literacy Fund established in HB1125 (1989).

■ State Action

Establish a clearinghouse for literacy programs.
Literacy efforts in the state would greatly benefit from a central state clearinghouse for information and for raising and distributing funds. State literacy efforts are hampered because separate literacy programs are forced to compete for funds and recognition. A well-coordinated and centralized literacy clearinghouse could integrate the efforts and target scarce resources to the areas most in need, yet still maintain our state's diverse delivery system. The Adult Literacy Commission should consider the best approach and location to house this effort.

■ Community Action

Expand and improve professional and volunteer literacy efforts.
Because of the strong link between economic development and workforce skills, it is in every community's interest to eliminate adult illiteracy. Communities can work together to foster an environment where residents understand that reading and math comprehension are critical to the community's sustained economic health, and can provide professional and volunteer resources to

tackle the problem. They can also foster the kinds of intergenerational approaches that are proving to be successful, in which a parent and child learn to read together.

2. The Economic Disadvantaged

■ State Action

Target state resources to develop more comprehensive programs for the economically disadvantaged.

The state resources for the economically disadvantaged will go further if spent on comprehensive programs that include outreach, counseling, health care, and child care, in addition to education and training.

The state resources for the economically disadvantaged will go further if spent on comprehensive programs that include outreach, counseling, health care, and child care, in addition to education and training. The majority of economically disadvantaged people are also educationally disadvantaged. They need extra assistance to overcome obstacles such as the cost of education, language barriers, child care and cultural differences. For some, short-term training will not be enough. Comprehensive programs, such as the Denver Family Opportunity Program, have demonstrated that comprehensive, long-term programs are making gains in preparing this group for viable employment. The state is already undertaking several comprehensive programs such as the JOBS program. The State Department of Social Services should continue to take the lead in developing models to study further development of comprehensive programs to reach target populations.

■ State Action

Create and implement a one-stop intake and assessment system.

A structure and set of procedures are needed for one-stop intake and assessment to simplify for Coloradans access and application to all services. The system should ensure that individuals can access easily information on all the services for which they are eligible—from welfare to Medicaid, to English as a Second Language and education and training programs. Recent changes in Federal Legislation give states significant lee-way in standardizing eligibility requirements and intake procedures, across a broad range of service and training providers. This one-stop assessment and assistance program would be available at multiple outlets in communities, and would require a partnership between the Department of Labor and Employment, the Department of Social Services, Colorado Commission on Higher Education, and the Governor's Job Training Office.

■ State Action

Improve outreach to dislocated workers.

Workers who have been at the same job for a long time often lack skills that will enable them to make a transition to new employment when they have been laid off. These potentially highly productive workers need an opportunity to move quickly back into the workforce. Colorado has already developed a rapid response team that delivers counseling, job search assistance, and information

on education and training options to dislocated workers. The passage of the Colorado Existing Industry Program is a good start in the direction of helping dislocated workers develop new skills while still employed. Funding levels should increase as the program gets up and running.

3. Small Business Employees

■ Community Action

Implement small business training teams.

Building on the Small Business Network or Small Business Development Centers, local, small, flexible and responsible small business training teams can be formed as access points for information and training services. These teams would be drawn from state agencies, the small business community, and education and training institutions. They may be housed at the Office of Economic Development, the community colleges, state agencies or other appropriate institutions. The initiative would be best implemented as a pilot project supported from state or local funds, with subsequent funding from user fees.

■ Business Action

Develop networks for large companies to help small companies.

In our employer field interviews, large firms in Colorado expressed an interest in sharing their facilities, training materials and experience with small firms, because they recognize their interdependence. This relationship has beneficial effects for both large and small firms. Large firms can begin this process by:

- preparing a list of their Colorado-based suppliers;
- identifying those suppliers who are dependent on a continuing relationship with the larger firm (e.g. where the firm could have an impact if it chose an active role in assisting with the smaller firm's training, especially if the focus is on meeting standards for product quality);
- assessing resources the larger firm has that would be useful in training owners, managers, or employees of supplier firms; and
- formalizing avenues of assistance with interested firms.

■ State Action

Provide incentives to encourage training consortia for small businesses.

A group of small employers with similar training needs are in a better position than individual small businesses to negotiate for customized training programs that suit their needs.

The state could develop incentives to small businesses by reallocating funds for customized training to create a pool of money available only to companies that have formed collaborative relationships and demonstrated that they will make financial commitments comparable to those of the state. Or the Colorado legislature could enact legislation and appropriate seed money to establish joint

training consortia that would operate on a user-fee basis. These funds would be targeted only to groups of small and medium-sized businesses.

Many other states in which small business accounts for the majority of new and existing jobs (as it does in Colorado) have already adopted innovative programs to encourage small business consortia. Each of these states, including Michigan, Pennsylvania, North Carolina, Mississippi, and Indiana, is using public dollars to enhance its impact on the private sector. This strategy allows states to reach more companies more efficiently than through a one-on-one approach. It also distributes significant responsibility to local businesses.

■ State Action

Create a facility to assist small business in implementing new technology.
To develop the use of new technology by small firms, the state should establish a computer-integrated flexible manufacturing facility for Colorado-based firms to use on a time-share or leased basis. The facility could be housed at a number of places—UC Boulder, UC Denver, or CSM are some examples—and include as one of its features a significant training component to address the skill requirements and other work place changes that result from adopting the latest production technologies. The Colorado Commission on Higher Education and/or the Colorado Advanced Technology Institute should take the lead on considering the feasibility of this type of facility in Colorado.

Action Agenda III. The Learning System Mismatch:

Create an integrated, flexible lifelong learning system that meets high standards of excellence.

To meet the growing need for lifelong learning, Colorado must create a learning system that can support an individual throughout his or her life.

Completing a K-12 education, vocational education, or a college degree are no longer enough for security in the new global economy. An employee today faces three to five career changes in a lifetime and needs to be prepared constantly to learn new knowledge and new skills. To meet the growing need for lifelong learning, Colorado must create a learning system that can support an individual throughout his or her life.

By learning system, we mean a single, integrated system of all institutions and programs that provide education, training and learning, beginning at preschool and continuing throughout the life cycle. The goal of a learning system is to prepare broadly qualified, flexible individuals, capable of change. Establishing such a system will require breaking down many institutional barriers that prevent people from getting services they need when they need them.

The recommendations that follow conclude this action plan. They are more ambitious and reach farther than most of the other recommendations because they incorporate a new vision of traditional systems. Implementing several of them will require new resources. But for the most part, building a lifelong learning system in Colorado will not require money, but leadership, concerted effort, collaboration and careful monitoring to ensure progress.

Jobs for Colorado's Future recommends four steps for Colorado to take to

build a world-class learning system. They are:

1. Define outcomes for the learning system.
Every Coloradan emerging from the education and training system should possess the skills they need to obtain and perform a job. The institutions providing education and training in Colorado need to be held accountable for what their graduates know and are able to do as a result of their education, not for the numbers of hours students spend in the classroom or the amount of money spent per student.

Today, we have a clear idea of what the new basic skills for the work place are—skills such as problem-solving, communication, teamwork and learning to learn. Mastery of these skills should be integrated into the outcomes expected across the learning system. However, these skill requirements are continuously being updated and need to be identified and adopted as new outcomes for the Learning System to be effective.

2. Develop new teaching and testing methods for the new outcomes.
Meeting the new education outcomes will require adapting our methods of teaching and testing. New curriculum, along with different teaching methods, will need to be established to teach better the new basic skills. In addition, the standardized testing procedures now in place will need to be revitalized to measure successfully the acquisition of these new skills.

3. Strengthen the system as a whole.
An effective learning system needs to be fully articulated. That is, movement from one component of the system to another must be as easy as possible, and each step of the system should prepare the individual for the next one. It must serve as a unified system, with diverse opportunities provided by a diverse set of public and private providers.

4. Assure learning opportunities at all levels.
To assure that Colorado's learning system will meet the ongoing learning needs of all its citizens, individuals will need to have access to each specific component of the system from pre-school through adulthood. Each part of the learning system in Colorado has its own particular strengths and challenges, as well as its own plans and advocates for improvement. In a brief report such as this one, it would be impossible to do justice to this complexity. But because we want to emphasize how important it is to think of the system as a whole, we summarize here some of the top priorities for action which Jobs for Colorado's Future's research has identified for each part of the learning system.

1. Define Outcomes for the Learning System

- **State Action**
- **Education and Training Action**

Define and incorporate the new outcomes for the learning system
Because all areas of the state are competing in the same global marketplace,

Colorado as a state, needs to support universal goals and outcomes for the basic skills expected of all students. Local education institutions should still remain free to adopt any strategies appropriate for meeting these standards. Today we know what a minimum set of skills needs to include in Colorado. These include all of the "new basic skills" as discussed earlier. However, the skill requirements will keep changing as the work environments continue to evolve. Either through a state consensus process like the one being used for the K-12 system today, or through the efforts of the Human Capital Strategy Board (see below), the desired outcomes for education and training need to be determined for the state. The Guaranteed Graduate program (an exemplary K-12 program which guarantees outcomes form secondary institutions) can be expanded to include new basic skills and updated continuously as skill levels change.

2. Develop New Teaching and Testing Methods for the New Outcomes

■ State Action

Establish a research and development institute for the new basics.
New curricula and in-service workshops to help teachers in addressing these new skills must be developed. A new training institute would be the vehicle through which methods for teaching and testing the skills of the future would be researched and disseminated. The institute would need initial funding of two to three million dollars, after which a significant percentage of its revenues would come from user fees. Such an institute could be an integral part of the proposed Center for Educational Excellence.

■ Education and Training Action

Develop tests that measure attainment of the new standards.
Because tests have such powerful influence on how teachers teach and schools are evaluated, it is essential that the tests Colorado uses to compare students and schools actually test for the thinking and comprehension skills important to the future. The complexity of developing new tests needs to be recognized. The process is full of technical and political difficulties, but essential if schools are to be held accountable for the new education outcomes. Colorado institutions of learning should add more open-ended, thinking questions to standardized, multiple choice tests, and experiment with more project-oriented, alternative forms of testing. States like Connecticut and Michigan have made impressive progress on such tests. Work in Colorado could build on work already begun by the Department of Education and Commission on Higher Education.

3. Strengthen the System as a Whole

■ State Action

Establish a Human Capital Strategy Board.
Currently, education and training are provided through numerous education

governing boards, community groups, and private industry without the benefit of guidance from a statewide strategic planning body. The HCSB should be established to evaluate the education and training needs of Colorado, reduce duplication of effort, and encourage greater coordination and services from public, private and non-profit organizations. The board would develop strategic plan bqased on many of the recommendations presented in this action plan. The HCSB should be comprised of public officials with existing program responsibilities and of private sector leaders representing industry associations, American Society for Training and Development, and individual companies.

Such a Board would provide Colorado with a mechanism for stimulating and coordinating action over the long-term. The HCSB would, for exampie, take the lead on such JCF action agendas as: defining and incorporating new outcomes for education; establishing more comprehensive training programs for the disadvantaged; establishing one-stop intake and assessment centers, advocating for improved articulation and coordination between different levels of education and training, developing transition skills portfolio and alternative credentialing; ensuring easier access to education for adults; and expanding and improving counseling services for all ages.

■ Education and Training Action

Develop more comprehensive articulation among educational institutions.
Articulation agreements among all components of the learning system from high school through post-secondary education are critical in assuring people aren't repeating courses unnecessarily, wasting time and resources. Colorado is already addressing the issue by requiring articulation agreements between state-supported post-secondary institutions. The Colorado Commission on Higher Education is requiring institutions of higher education to develop an innovative transfer guide documenting how community college courses transfer to their four-year institutions. These guides will be completed by May, 1990. However, to strengthen an individual's ability to continue his/her education through the learning system, all appropriate academic credits should be transferable between institutions of all levels, and between public and private sector courses and experiences.

■ Education and Training Action
■ Business Action

Implement the Transition Skills Portfolio.
With Coloradans facing three to five career changes in a lifetime, the only certainty in an individual's life is constant change in jobs and training needs. Employees need to be prepared to respond to these changes by possessing a continuously updated record, or portfolio, of the skills, experience, and education and training they have mastered to date. Currently under development by the Colorado Department of Education, the Transition Skills Portfolio is a

system to help a high school student create a record of his or her progress in acquiring skills necessary for post-secondary pursuits. This model should be built upon to create a portfolio which can be used by all individuals throughout their working lives. Documents that would typically be found in the portfolio include records of the achievement of transferable skills, a career development/education growth plan, a resume, educational transcripts, and completed applications for employment and/or post-secondary education.

The Colorado Commission on Higher Education could take the lead in working with business to develop transition skills portfolio for adults which student and employees can use throughout their lives.

- **Education and Training Action**
- **Business Action**

Develop a system for alternative credentialing for work-based learning.
In addition to the Transition Skills Portfolio, an alternative work-based credentialing system should be created by business and industry with participation by post-secondary institutions and labor to facilitate the transferability of skills across jobs. Possibly following New York's Board of Regents of Higher Education program, Colorado should develop a mechanism and a public/private body that can "credential" workers who have advanced in various competencies through their training on-the-job or their experience in community or other work. There are advantages from such a credentialing system. Employees would need less tuition dollars and less time in the classroom learning things they already know. Employers would have a reliable means of knowing what skill levels are possessed by job applicants. As an extra incentive for employers, US WEST has already found that it could save thousand of dollars in tuition assistance to workers by arranging for community college credit for a large number of courses taught at the firm's Technical and Education Center.

A business group, such as the Greater Denver Chamber or CACI—the Rocky Mountain chapter of the American Society of Training and Development—and the Colorado Commission on Higher Education could establish a working group to determine the benefits and feasibility of alternative credentialing in Colorado.

- **State Action**
- **Business Action**
- **Education and Training Action**
- **Community Action**

Provide high quality career counseling to everyone
To make the best choices regarding their future learning and work lives, students and employees need to have better understanding of the realities of job and educational markets as well as the range of options available to them. Education counselors at all levels in Colorado have been overwhelmed by the needs of personal counseling at the secondary and post-secondary levels

relating to drug abuse, family violence, and personal problems such as teen pregnancy and divorce. The advent of the new economy, however, requires a renewed focus on accurate, realistic counseling on the changing job markets, occupational diversity, and educational and skill requirements necessary to chart a course for economic success. Action that should be pursued include:

- **Retrain Counselors.** Multiple efforts are necessary to develop understanding of labor market realities and changing job requirements. Through partnerships between businesses and education and training providers, for example, state and local chambers of commerce could provide day-long seminars for counselors explaining the needs and the skill requirements of state and local industries. Corporate human resource development staff could be made available to provide additional training to public counselors.
- **Create mentor programs.** Student-to-student mentors from college to high school and from high school to elementary and middle school have been successful in other states to provide a low-cost, high-return form of peer counseling and support. In addition, community mentors for students and employee-to-employee programs could be established to provide additional counseling support.

■ State Action

Encourage easier adult access to institutions.

The majority of jobs in the future will require post-secondary education. Colorado should encourage its citizens to continue their education by aggressively exploring alternative means of financing post-secondary education. Four options for consideration are:

- **Establishing a worker education trust fund.** A fund to support on-going learning could be established where workers and employers contribute to the fund much in the same way as they do to the current unemployment insurance fund.
- **Providing financial aid to workers.** Colorado could promote the use of guaranteed student loans (GSL) among individuals who are considering additional education or training courses that are not paid for by their employer. This funding would need to be in addition to funding for existing student populations.
- **Making financial aid and guidance easily accessible to adults.** Easier access could be provided by implementing one-stop shopping for *adult* financial aid, especially in rural areas where access to financial aid offices of larger institutions is limited.
- **Providing 14 free years of education.** Because we know that many jobs of today and an increasing number of jobs in the future will require high school plus two years of education, the state can consider providing 14 years of free education to all residents, regardless of when they take that education, to ensure we maintain a competitive workforce.

4. Assure Learning Opportunities at all Levels

■ State Action

■ Community Action

Develop early childhood education for all of Colorado's children.

Colorado lags behind other states in the level and quality of its support for early childhood education. To enhance early learning opportunities for all children, we recommend these initiatives:

- Creative use of alternative financing by local school districts to expand pre-school opportunities for their children. Financing packages can include sliding scale tuition, private sector donations, as well as use of available state and federal funds. The Leadville and Brighton school districts offer excellent models.
- Institute a Parents-as-Teachers program to give parents from all socioeconomic backgrounds practical assistance in being their children's first teachers. This program could build on the HIPPY pilot program established in Grand Junction. First Impressions is currently doing important work in this area.
- Increase state funding for early childhood education for poor children, and in particular, increase the number of children enrolled in Headstart to one hundred percent of those eligible.
- Improve the quality of pre-school programs by setting reasonable standards for content and safety, disseminating best practice models and developmentally appropriate curricula, training teachers and using the resources of university early education departments.

■ State Action

■ Community Action

Continue efforts to improve K-12

Many constructive programs are underway in Colorado to revitalize the K-12 system. The Colorado Department of Education, local school districts and public interest groups have all been effective in discussing the need for changes and implementing action to get there. JCF would like to emphasize the following areas as priorities:

- Expand drop-out prevention programs.
- Give teachers of grades K-3 the training and resources to employ developmentally appropriate, experiential teaching strategies for all children.
- Expand opportunities for gifted and talented children.
- Strengthen guidance and developmental activities.
- Improve secondary vocational education programs.

■ Education and Training Action

■ Business Action

Provide work-based learning options to high school and post-secondary students.

The U.S. is the only major industrialized nation that lacks a structured program for helping young people make the transition from school to work. Half of all youth are not college bound; yet, more than half of all new jobs will require some post-secondary education. Colorado can make itself one of the first states to solve this problem by pioneering a new approach to work and learning. Colorado can institutionalize a large scale, alternative, work-based educational program that would incorporate all students, whether college-bound or not.

A work-based learning option in Colorado would involve several hundred young people in a highly structured four-year "apprenticeship-like" program of on-the-job training at a major industry site, such as health services, metal fabrication or electronic equipment, supplemented by part time attendance at a school-based learning center. At the end of the four year program, participants would attain the benefits of skilled worker status, a high school diploma and two years of post-secondary credit that would be fully transferable to four year colleges in the state.

In creating a bridge from school to work in this fashion, Colorado can change dramatically the economic prospects of millions of its young people while securing a new and improved system of producing skilled workers.

■ Education and Training Action

Develop new strategies for higher education.

Colorado's institutions of higher education must collaborate with students and employers to improve the quality and access of classes for adult students and the new workforce. Efforts should include:

- **Responding to the need for convenience, choice and accessibility.** This may mean adding more evening and week-end courses, delivering more courses off-site, and providing child-care, keeping student service offices and counselling open at night. It will also require involving more core faculty in continuing education and cooperative work programs.
- **Increasing the numbers of minorities attending and completing post-secondary education.** Minorities will become an increasingly important part of our workforce. Although more minorities are attending Colorado's higher education institutions, the number completing four-year degrees needs to be increased by targeted efforts and incentives from all sectors.
- **Taking the lead in collaboration.** Higher education can be a key partner in better collaboration with areas schools, businesses, unions and community organizations. In addition to its traditional role in learning, higher education has an opportunity to determine and serve the needs of businesses and to assist in training and retraining efforts, especially for professional, and managerial employees.

■ Business Action

Expand training of the workforce.

Increased on-the-job training will play a more important role as we prepare our learning system for the future. Employers have as great an interest in a skilled workforce as the state and local communities do. Jobs for Colorado's Future research indicates that the majority of Colorado firms spend less than $1,000 a year on training their employees. Companies invest most of their training dollars in job-specific training, whereas these same companies report that their employees need more help with the new basic, transferable skills. To facilitate their employees' growth in knowledge and skills, Colorado business efforts should include:

- **Communicating to employees directly and well in advance of anticipated changes in business strategy or products that will change skill requirements.** Once an employee knows what to expect, he or she can be prepared to get the training that is required instead of potentially losing a job.
- **Increasing the number of employees in training to include employees at all levels.** Jobs for Colorado's Future research indicates that the majority of employees who need the most training are at the skilled and semi-skilled levels. If Colorado is to compete with other states and countries, all our employees need to receive the training they require.
- **Providing assistance to employees for training.** Colorado employees cite many obstacles to getting training, including cost, convenience and day care. Employers should explore with their employees new ways that they can provide assistance, including flex-time for taking courses, tuition costs tied in to years of service and other mechanisms.
- **Integrating human resource development into business' institutional culture and structure.** Employees are better prepared to make their personal training and career choices when companies connect learning to career development, when performance appraisals include a learning plan for individual development and reward learning and new ideas. Some companies in Colorado have instituted Career Planning Resource Centers and have found them to be very successful.
- **Establish partnerships with local education and training institutions to provide training to their employees at a reduced cost.** Fully 50 percent of all Colorado firms do not use the public resources that are available to them through community colleges and vocational education. Many partnerships can be developed, from renting videos to on-the-job instruction, which will provide employers with increased training options at minimum costs.

Appendix A

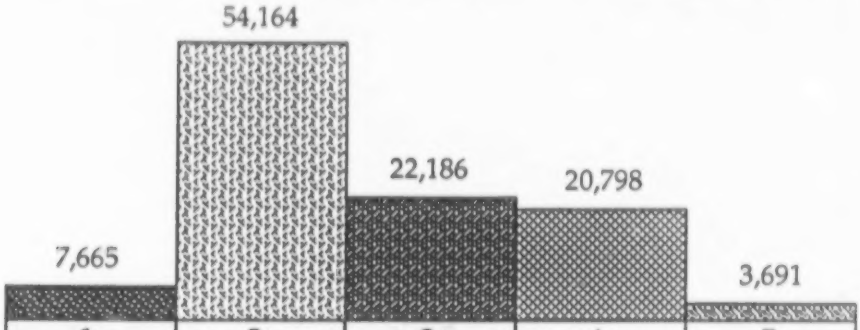
Occupational Skills in the Colorado Economy

The occupation-specific skill scores presented in the following figures were applied to occupational projections made by the Colorado Occupational Information Coordinating Council. Jobs For the Future, Inc., developed a special method for analyzing the skill content of occupations with the assistance of McBer and Co.

Based on a extensive research about jobs and the skills workers need to do their jobs well, JFF created a measuring system that divides occupations across five dimensions—psychomotor skills (e.g., hand-eye and other physical coordination) factual knowledge (breadth and depth of knowledge within a specific field), interpersonal skills (the ability to work with others to achieve a goal), cognitive skills (the degree of critical thinking required), and motivational (a combination of personality development and personal initiative). Each skill dimension is further divided into competency levels that indicate the level at which a worker in any given occupation is expected to perform.

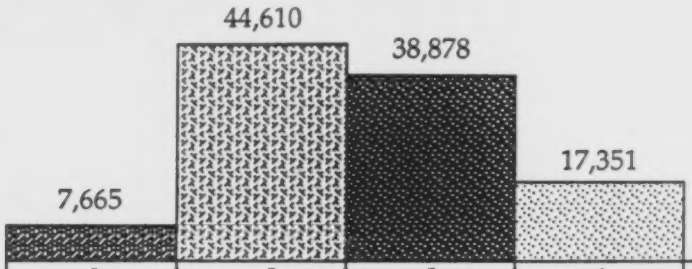
There are several advantages to using a five-way skill analysis. Some "skill indexes" rate occupations according the the level of educational attainment needed—e.g., competency at the fourth grade level, completion of college, etc. This approach fails to measure such vital area as motivational ability, which is more of a personality function than an educated trait. Other indexes collapse all skill dimensions into a single score, which doesn't respond to similarities in component skills across occupations.

New Jobs in Colorado by Psychomotor Skill Level



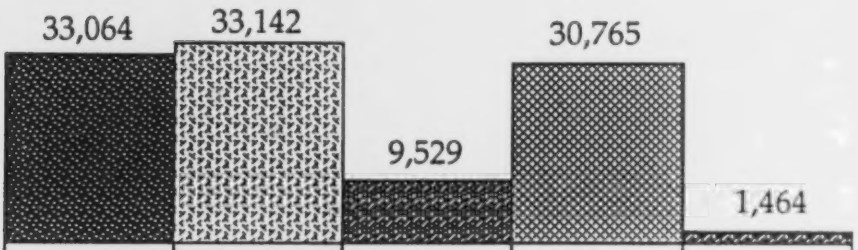
1	2	3	4	5
Perform bulk movement of goods	Manipulate goods (eye-hand coordination)	Manipulate goods (eye-hand coordination under time pressure)	Precision manipulation of goods or monitoring several physical events or several coordinated precision movements under time pressure	Precision manipulation of goods (under time pressure and responding to unpredicted situations)
Occupations				
Cleaning Service Workers Laborers	Computer Specialists Social Scientists Lawyers Accountants Sales Managers Insurance Agents Technical Sales Representatives Blue Collar Supervisors Food Service Workers	Engineers Secretaries Office Machine Operators Metal-Working Operatives Other Operatives	Scientists Science Technicians Nurses LPNs Health Technicians Writers/ Artists Construction Trades Printing Crafts TCPU Crafts Mechanics	Physicians Medical Workers Metal Crafts Other Craft Workers

New Jobs in Colorado by Factual Knowledge Level



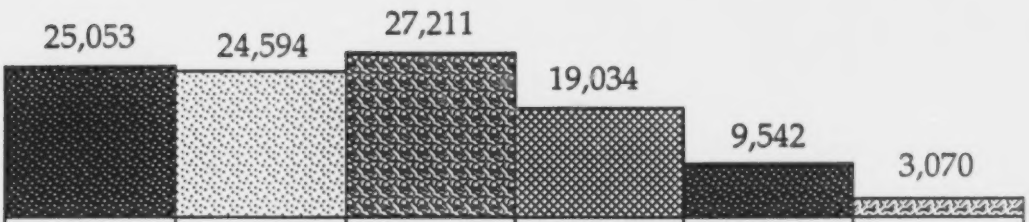
1	2	3	4	
Rote Memory	Diagnostic use of concepts (application and interpretation)	Diagnostic use of concepts (application and interpretation requiring perception of causality)	Systematic thinking (perception of multiple causal relationships)	Synthetic reasoning (concept formation through pattern recognition)
Occupations				
Office Machine/ Computer Operators Metal Working Operatives Cleaning Service Workers Other Service Workers Laboreres	Sales Clerks Secretaries Food Service Workers Transportation Equipment Operators	Science Technicians LPNs Accountants Sales Reps Metal Craft Workers Priniing Crafts TCPU Crafts Other Craft Workers	Nurses Medical Workers Lawyers Sales Managers Insurance Sales Construction Trades Blue Collar Supervisors	Engineers Scientists Physicians Writers & Artists Computer Specialists Other Professional Workers

New Jobs in Colorado by Interpersonal Skill Level



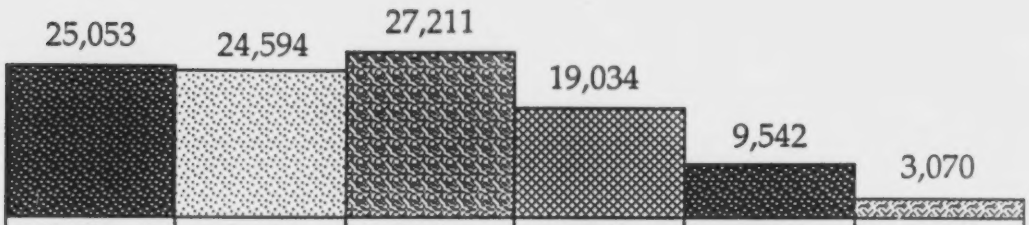
Level 1	Level 2	Level 3	Level 4	Level 5
Works alone	Works with others on tasks	Works with others (influencing individuals to do something)	Works with others (influencing strangers or influencing a group in an established pattern)	Works with others (influencing a group of people as a whole)
Occupations				
Office Machine/ Computer Operators Metal crafts Mechanics Printing crafts Other crafts Metal Working Operatives Cleaning Service Workers Other Service Workers Laborers s		Physicians Medical Workers Social Scientists Accountants Sales clerks Health Service Workers	Nurses LPNs Lawyers Sales Managers Insurance Sales Sales Reps Other Sales Workers Blue Collar Supervisors	Writers & Artists Administrators Inspectors

New Jobs in Colorado by Motivational Level



Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
Security (subsistance money)	Affiliation (desire to be/ work/interact with others on other than task-related matters)	Precision (desire to be accurate, attention to detail)	Integration (desire to coordinate/ orchestrate the work of others)	Entrepre-neurial pursuits (desire to do new and innovative things)	Influence (desire to lead, inspire others to do things)
Occupations					
Sales clerks Office Machine Operators Metal Working Operators Cleaning Service Workers Laborers	LPNs Other Clerical Workers Food Service Workers Health Service Workers Personal Service Workers	Engineers Scientists Science Technicians Nurses Physicians Medical Workers Computer Specialists Lawyers Accountants Construction Trades Metal Crafts Workers Mechaniscs Printing Crafts	Other Professional and Technical Workers Blue Collar Supervisors Other Managers and Officials	Insurance Sales Agents Sales Reps Other Sales Workers	Social Scientists Writers & Artists Sales Managers Administrators Inspectors

New Jobs in Colorado by Motivational Level



Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
Security (subsistance money)	Affiliation (desire to be/ work/interact with others on other than task-related matters)	Precision (desire to be accurate, attention to detail)	Integration (desire to coordinate/ orchestrate the work of others)	Entrepre-neurial pursuits (desire to do new and innovative things)	Influence (desire to lead, inspire others to do things)
Occupations					
Sales clerks Office Machine Operators Metal Working Operators Cleaning Service Workers Laborers	LPNs Other Clerical Workers Food Service Workers Health Service Workers Personal Service Workers	Engineers Scientists Science Technicians Nurses Physicians Medical Workers Computer Specialists Lawyers Accountants Construction Trades Metal Crafts Workers Mechaniscs Printing Crafts	Other Professional and Technical Workers Blue Collar Supervisors Other Managers and Officials	Insurance Sales Agents Sales Reps Other Sales Workers	Social Scientists Writers & Artists Sales Managers Administrators Inspectors

Appendix B

Jobs for Colorado's Future
List of Sources

Economic and labor market analysis was performed by Jobs for the Future, Inc., (JFF) and performed for JFF by Mt. Auburn Associates, Dr. Andrew Sum, Director of Northeastern University's Center for Labor Market Studies. Employment and earnings figures come from two sources: the U.S. Bureau of Economic Analysis (BEA) and the Colorado Department of Labor and Employment (DoLE). BEA figures are important to track industries such as agriculture and military, which figures are outside the scope of most state-sources. BEA data also include information on proprietorships—any person who files a Schedule C. for federal income tax purposes (covering part-time work, independent sole-proprietor businesses, and tax shelter investments in mining or real estate).

The Colorado-based information was derived from the state's ES-202 files, which are records based on the state unemployment insurance system—all wages and jobs (by industry and location) covered by unemployment compensation (about 97% of all jobs).

Some earnings data were derived from the *Employment and Wages* publications of the U.S. Bureau of Labor Statistics. Some data is based on the U.S. Census Bureau data tapes of the Current Population Survey.

JCF reviewed several research and planning documents such as the reports for the Colorado Workforce 2000 project, Vision Colorado, Colorado Youth 2000, the Colorado Rural Economic Development Strategy, and reports from the Colorado State Demographer, the Office of Economic Development, the Adult Literacy Council, and the Colorado Community College and Occupational Education System.

Surveys of Colorado workers and employers were conducted for the JCF program by Jobs for the Future, Inc. For the survey of Colorado employers, JFF drew a sample of 10,000 Colorado firms from the ES-202 files. These firms included all firms in the state that employed at least 100 workers (all industries), 25% of all other firms in the Front Range region that employ less than 100 workers, and 10% of all other firms in the in the out-state region. Approximately 1,450 firms responded. Survey data was tabulated by Pride Data of Boulder, CO, and statistical analysis provided by Talmey Research and Strategy of Boulder. Specific information about the sampling and identification of the respondents provided in a separate survey report.

The employee survey was conducted through telephone interviews with 500 Colorado workers by Talmey Research and Strategy. Specific information about the sampling and a profile of respondents is provided in a separate survey report.

Appendix C

Jobs for Colorado's Future Contributors

The State of Colorado

Commission on Higher Education
Community Colleges and Occupational Education System
Department of Corrections
Department of Labor and Employment
Department of Local Affairs
Department of Revenue
Department of Social Services
Governor's Job Training Office

Colorado Businesses

Colorado National Bank
Continental Airlines
Coors Brewing Company
Dames and Moore
Denver Institute of Technology
The Greater Denver Corporation
IBM
King Soopers
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Martin Marietta Astronautics Group
NW Transport Service, Inc.
Pace Membership Warehouse
Public Service Company
Robinson Dairy, Inc.
Rose Health Care Systems
Storage Technology Corporation
Total Petroleum, Inc.
U S WEST Communications
United Banks of Colorado, Inc.

The U.S. Department Of Labor

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Executive Report
of the
Jobs for Indiana's Future
Program

August 1989

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I. Preface

Indiana faces the enormous challenge of delivering appropriate education and vocational learning that will assure a competitive workforce for industries and occupations important to the state's future economy. The Indiana economy is undergoing massive restructuring as the result of several combined influences: an increasingly global economy, unprecedented technological change, a shift away from manufacturing toward other economic sectors, and a reshaping of the way many business firms are organized.

At the same time, the state faces radical demographic changes. The Hoosier workforce is aging fast, and there may not be enough young workers available to meet future labor requirements; the state's population is declining as the result of outmigration and a decline in the number of children; and the workforce lacks many of the skills needed for Indiana's economy to remain competitive in a technological future.

Together, these trends result in a growing mismatch between job requirements and the number and skills of people available to work in the future economy.

With close attention and sustained effort, Indiana's institutions must begin to bridge this gap. The combined energies of state and local government and institutions, business, education, labor, and all workers must meet the competitive challenge head-on. The Indiana Commission on Vocational and Technical Education (ICVTE) stands in the front lines for meeting this challenge--Indiana's ability to transform its economy will depend more on the vocational learning system than perhaps any other institution in the state.

This is a critical concept to understand. **The challenges of economic transition and the need to assure a competitive workforce for all of Indiana requires more than just tinkering at the margins of public educational policy. It requires a reconceptualization of how all of the state's institutions and programs fit together and work as a system.**

The Commission, like all sectors, must look to the real need for vocational learning:

(a) the client base consists primarily of Hoosiers already on the job;

(b) economic change makes the need for all workers to be competent in basic skills more important;

(c) economic change adds many new items to the list of basic skills workers must have--communication skills, working in teams, computer literacy, problem-solving, and higher order critical thinking;

(d) the workforce development delivery system that closes the skills gap must be based in the workplace, responding to the individual needs of firms and workers; and

(e) the delivery system must be decentralized and locally responsive.

Based on the year-long Jobs for Indiana's Future program, involving an extensive analysis of the Indiana economy, discussions with workers, employers, community leaders, educators, labor leaders, and others, we recommend the ICVTE take action on six separate fronts to prepare Indiana's workforce for the future (See Table A).

The Jobs for Indiana's Future Program

The Jobs for Indiana's Future program was established to assist Indiana in the process of meeting its future workforce needs. The JIF program is based on the simple premise that it is better to anticipate and plan for change than to react to it in crisis. It is also based on the knowledge that concerted action by many institutions is the best way to meet both educational and economic goals.

Jobs for Indiana's Future is a state level public/private effort. It is sponsored by the Indiana Commission on Vocational and Technical Education (ICVTE), by the United States Department of Labor, and by grants from private sponsors throughout Indiana. The program is a research and action effort designed to provide the ICVTE with assistance in planning for the future by:

- Enhancing ICVTE's capacity to guide Indiana's human capital investment strategy through sound data analysis and to manage an integrated network of resources;
- Developing information on the changing skill requirements in industries that are pivotal to Indiana's future;
- Analyzing employer and employee training needs and practices;
- Helping to build a consensus among important constituencies for the state's future needs by educating the public about the relationship between education and the economy.

Table One

JIF ACTION PLAN: SIX STRATEGIES FOR SUCCESS

I. Build a Vocational Learning System. The Commission, together with the Governor, the Legislature, and every vocational education institution, should move to make Indiana the first state in the nation to set and act on a vision of the vocational learning system as a process of continuous education for all categories of occupations and all sizes of companies.

II. Target job related learning to the jobs and skills of the future, not of the past. Indiana's public sector educators need to know a great deal more about specific labor demand and skill needs within the workplace. The education system must anticipate and plan for labor force needs, not react to them in crisis.

III. Ensure the quality of vocational education graduates so that being a vocational education graduate is synonymous with having state-of-the-art critical thinking and other future skills. The vocational learning curriculum must lead to demonstrable proficiencies in all basic skills--not just reading, writing, and computation, but the full range of 'new basic skills.'

IV. Support and strengthen economic development activities within the state. State and local leaders in Indiana must keep in mind the overriding importance of strengthening the state's economy by encouraging growth in higher wage, higher value-added industries.

V. Encourage greater involvement from the private sector. The ICVTE must take a central position representing the interests of the state in working to encourage greater private sector support for new ways of vocational learning.

VI. Communicate the need to prepare Hoosiers for a competitive future. A public education and communication effort should explain the changing economy and show how change can equal exciting opportunities for all Hoosiers.

The Six Strategies for Success are discussed in more detail in Section V of this report.

The Jobs for Indiana's Future program undertook an extensive analysis of economic and workforce issues. The work program had a number of tasks:

- JIF prepared a comprehensive economic analysis of Indiana and each of twelve sub-state regions.
- JIF convened meetings of key collectors and users of labor market information under the leadership of Dr. Andrew Sum, Director of Northeastern University's Center for Labor Market Studies.
- JIF administered a survey to 7,000 business firms in Indiana, asking them to assess the skill levels of their workforce across several essential job skills, asking for information about their employee training and development practices, and asking a series of questions about each firm's willingness to adopt new kinds of training practices.
- JIF conducted in-depth interviews with CEOs, personnel and human resource managers, supervisors, and workers in firms whose competitiveness is essential to the Indiana economy. These interviews provided qualitative information about the firm's competitive strategy, its investments in technology, its organizational practice, its training and worker education policies, and its assessment of vocational learning and occupational change.
- JIF held interviews and focused discussions with educators, economic development planners, and state and local leaders from business and labor to begin developing a consensus on the state's strategic needs concerning human resource development.
- JIF conducted a series of focused discussions with Indiana citizens to elicit their level of awareness of economic transition, and to highlight obstacles to obtaining additional employment-related education and training.
- JIF administered a survey to Indiana workers to obtain quantitative information about worker attitudes toward jobs, education, the economy, and continued learning. Results from this survey are reported in a separate document.
- JIF prepared an extensive communication program, including, newsletters, video documentaries, public service announcements, and "GamePlan" - an interactive game to help individuals plan their working futures.

II. The Context for Change

The competitive forces that are reshaping the American economy affect each state differently. Every state has a unique economy--the mix of business firms and industries that provide employment and income. Every state has a unique workforce--a different combination of experience, education, skills and knowledge that workers bring to their jobs. Every state also has a number of alternative economic futures--some bright and prosperous, others more challenging to its citizens.

Whether or not a state can develop a strong and vital economy that will provide its citizens with secure jobs and good incomes depends significantly on whether its leaders develop a unified vision of the future, and agree on what steps are necessary to achieve it.

Changes in the industrial structure of jobs have important consequences for the earnings of the state's workers and the incomes of their families. The occupational staffing patterns of industries also vary quite substantially. Thus, shifts in industrial structure will generate changes in the occupational characteristics of available job opportunities, and thereby affect the educational and skill requirements for the state's future workforce.

The global trends aren't hard to understand: the economy of the future will favor business firms and workers who are highly skilled, technically literate, willing and able to adapt, and capable of working together in cooperative teams. The next step is to put together a coherent plan for how a state develops essential skills in its workforce and coordinates that effort with its plans for economic development. The hard part for most states is agreeing on a starting point--to acknowledge the reality of the state's current human resources and the ability of public and private institutions to build on the many strengths and fix any major weaknesses.

Indiana, like most states, can point with pride to many good programs and good, flexible institutions--especially its efforts on behalf of statewide economic development. But shifting attention to the state's human resource development

needs will require a 'sea change' in attitude among political leaders, educators, business leaders, and citizens.

More than half of the new jobs that will be created in the national economy in the next ten to fifteen years will require workers to have more than a high school education. If Indiana cannot capture its fair share of growth in good jobs, then the standard of living among Hoosiers will continue to decline relative to other states (which would also increase the pressures that push people in search of better job opportunities elsewhere, perhaps increasing the outmigration of Indiana workers and leaving fewer workers to keep the state's economy going).

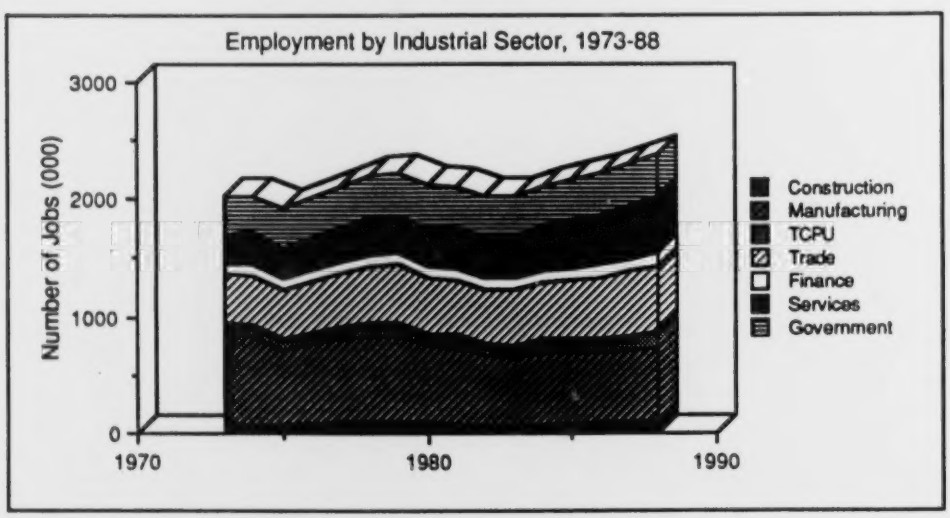
Indiana's economy offers many significant challenges. The JIF program analyzed the major issues across six dimensions--economic structure, business organizations, regions and patterns of growth, the workforce, occupations and skills, and attitudes.

A. Changes in the Economy

Indiana remains predominantly a manufacturing state. This defines the job and wage profile for its workers as well as the skills that each person must bring to the job site. Despite recent prosperity, there is reason to believe that the long-term picture of the Indiana economy presents serious challenges to educators, employers, and policymakers:

- *The economy, though shifting to a service economy like much of the United States, still depends highly on manufacturing for much of its employment and most of its income.* Indiana's manufacturing employment peaked in 1973 but still accounts for 28 percent of all employment--a much higher percentage than the nation (at about 18 percent)(see Figure One).

Figure One

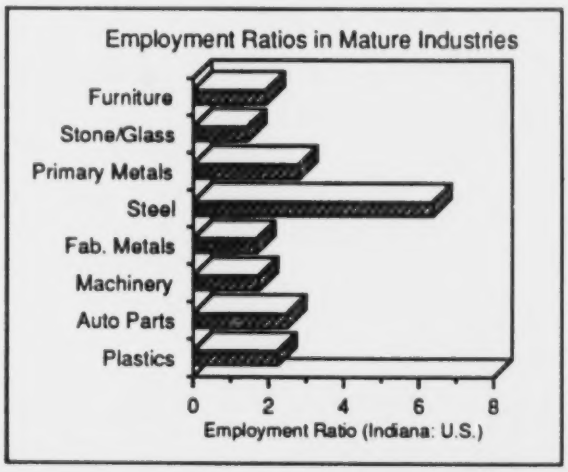


- *The Indiana economy, because of the dominance of the automotive industry and durable goods sectors, has exhibited substantial volatility over time. However, the recent years of growth should not be allowed to mask fundamental changes that have taken place over the long-term.* During the past 15 years, the Indiana economy has been characterized by substantial volatility. There have been periods of sharp employment declines (1973-75, 1980-82), modest growth (1982-86), and substantial employment gains (1975-79, 1986-88). Between 1986 and 1988, total wage and salary employment in the state expanded by 7.9 percent. Each major industrial sector posted substantial employment gains during this period. The Indiana economy actually outperformed the U.S. in job generation. Each major industry sector in the state outperformed its counterpart nationally, in some instances by a wide margin.

  Despite this sound performance of late, the directions of growth, earnings levels in growing industries, skill needs, and other fundamental economic and policy issues should be monitored carefully by political leaders, development planners, and educators.

- *Among its goods producing sectors, Indiana's industrial structure is highly concentrated in 'mature industry' firms*--firms that are not characterized by significant product innovation. Without much product innovation, these sectors are not likely to provide significant growth in employment in the near future (see Figure Two). They are also more vulnerable to international competition and business recession.

Figure Two



- *Both the manufacturing and service sectors in Indiana are experiencing a major transformation in the way that business works*--a combination of technological change and competitive pressures are leading to a downsizing of large business units, as well as organizational changes within firms. In manufacturing, the primary cause is the implementation of automated manufacturing technologies.

- *The Indiana economy is not developing a significant export-based service sector.* The kinds of service jobs added to the state's economy over the past

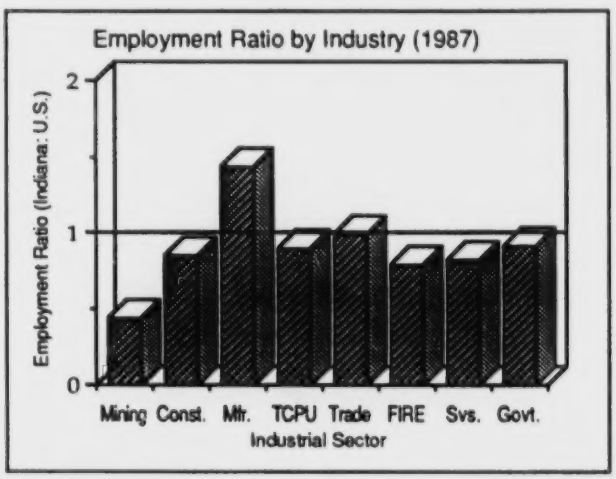
decade have been trade and service jobs that support a largely domestic in state market. These include industrial sectors such as retail and wholesale trade, personal and consumer services, and some financial services.

For example, the trade sector added 152,800 new jobs between 1973 and 1988, accounting for about 41 percent of *all* new jobs in the state over this period (manufacturing jobs declined by about 125,000 in the same period). Private services and trade were the dominant sources of new jobs in Indiana between 1986 and 1988--together accounting for 93,700 new jobs, or more than 50 percent of all net new job opportunities.

Not all service jobs are 'bad' jobs. An example might help illustrate this point. Twenty-five years ago, Indiana and Massachusetts had very similar economies--the population and size of the labor force were about equal, and both were highly industrialized, blue-collar manufacturing states. Since then, Massachusetts developed a service-based economy that provides information and basic business support services throughout the world, giving its residents a range of well-paid professional positions.

While Indiana has a few notable examples of service industries that serve national and international markets (health and life insurance firms are examples), the state still imports a great deal of business service from other states. Some of this is a function of geography--a high percentage of the state's population and economic activity is located near the state's borders, and draws services from Chicago, Detroit, Cincinnati, and Louisville. Some of the importing results from the high percentage of state manufacturing firms that are branch plants, and therefore are often linked to service connections that exist at the corporate level.

Figure Three



Overall, the economy is not service based (see Figure Three), and lacks a strong export service component.

- *Indiana is not growing as fast (and probably will not grow as fast) as the nation.* The net annual employment growth rate between 1973 and 1987 for Indiana was less than half the rate for the nation. In addition, the state lost more than 4 percent of its total population between 1980 and 1986. Because of the high concentration of mature manufacturing industries, Indiana is not likely to generate large numbers of new manufacturing jobs in the next ten to fifteen years.

  Indiana's economy outperformed the national economy in new job generation between 1986 and 1988. However, population decline, outmigration, the industrial structure of the state, and a high expected retirement rate will probably combine to cause limited opportunities for employment gains.

B. Changes in Business Organization

The trends mentioned above affect the kinds of occupations that are available for Hoosiers--growth in retail trade provides jobs that are very different from those lost in the manufacturing sector. These trends are further exacerbated by major shifts in business organizations, which change occupations themselves and the skills that a worker must bring to the job.

- *Employment will shift to smaller production units.* Indiana's employment in the past has been more highly concentrated in larger firms than is true of employment across the nation. Yet smaller firms are becoming more important employers in Indiana faster than in other states.
- *Supplier networks will create strong links across Indiana firms.* The trend in American business today can be summarized in two words: "downsizing" and "outsourcing"-- larger firms restructuring into far smaller independent production units in order to be more flexible and adaptable to market changes; more and more production work on components and subassemblies being contracted out to independent suppliers. Together, these trends suggest that smaller firms will have a competitive edge over larger ones for many products and services, and that there is a growing market for smaller firms to supply products that used to be made in a vertically integrated setting.
- *Smaller firms have not yet been hit by the biggest human resource issues related to new technology investments.* Workers in smaller firms constitute a significant market for remedial, technical, and vocational learning.
- *Smaller firms underinvest in their workers*--a dangerous mode for a labor-short or skills-deficient economy in the future.

C. Changes in Regions and Patterns of Growth

Indiana's patterns of growth will vary greatly across the state. Educators will have to become much better at strategizing at the local level: this means being able to accomodate the needs of economic 'hot spots', while also providing better opportunities for citizens in declining areas.

- *Indiana's future growth will likely favor a few urban areas.* Across the nation, urban economies do better than rural economies, and some urban areas do better than others. In Indiana, only four (urban) labor market areas have managed to recapture their 1979 (pre-recession) employment levels. The six areas losing employment have lost a combined 12 percent of their wage jobs.

  Total wage and salary employment in the state increased by about 7.2 percent between 1979 and 1988. Only two urban areas grew faster than the state average: Elkhart grew by about 34 percent and Indianapolis grew by about 16 percent. These two cities alone accounted for more than 70 percent of all net new jobs created in the state during that period.

  Interestingly, the balance of the state (that is, the smaller communities and rural labor markets) outside the major metropolitan communities has grown about 13 percent--faster than most urban areas over the past decade.

D. Changes in the Workforce

Workers have lost earnings because of major changes across the whole economy. Yet changes within the workforce itself will likely put new pressures on employers to stay productive and competitive.

- *Indiana's workers and working families will continue to suffer wage and income loss.* Most of the net new jobs created in the state economy are service sector jobs in retail and wholesale trade, and in other service jobs. Manufacturing jobs generally pay much higher wages than most service sector jobs, with the result that manufacturing jobs lost through general shifts in the economy show up as income loss to families. For example, the average wage for a job in retail sales is only about 40 percent of the average wage in manufacturing. For every job eliminated in manufacturing, it takes two and a half retail service jobs to replace that lost income.

"We're beginning to lose part of our middle class. Many people are getting richer or poorer, and the people in the middle are just separating out."

--An Indianapolis Worker.

JIF data demonstrate that the average weekly wages paid in Indiana increased at a slower pace than they did in the nation. This is in part a function of the shift away from high-paying manufacturing jobs toward lower paying service and trade sectors. Furthermore, the weekly wages of workers in almost every industrial sector in Indiana was low relative to their national counterparts. In fact, most of the difference in family income relates directly to the below average hourly earnings of Hoosier workers.

- *Declines in earnings may result from a larger change in compensation across all of American industry. If so, then wage competition from other regions and third world countries may push the decline further.* Pressure for low earnings is likely to be due to a variety of factors. First, the Indiana economy is relatively under-represented in a number of relatively high-wage sectors (finance, professional and business services). Second, aggregate employment of professional, technical and managerial workers in Indiana is well below the national level (these workers' earnings tend to be well above the average). Third, workers in all of Indiana's industrial sectors, except manufaturing, had lower average earnings than was true of U.S. workers in the same sectors. Part of this last difference is attributable to differences in the types of economic activities present in those sectors, and to the less intensive use of high-skilled workers in Indiana firms.

  Employers reported to JIF that compensation in the future will more closely reflect the demonstrated skills and proficiencies of each worker rather than seniority or credentials. If this trend continues as expected, the preponderance of lower-skilled workers in the Indiana workforce may be a cause for concern among all Hoosiers.

Only 22.8 percent of Indiana's employed workers held professional, technical, and managerial positions in 1988--well below the national average. This ranked Indiana 48th among all states, exceeding only Tennessee (22.1 percent) and Arkansas (21 percent)

- *Family incomes in Indiana show a growing inequality.* JIF analyzed family income distribution data for the years 1973, 1979, 1985, and 1986 in Indiana and three neighboring states: Illinois, Ohio, and Michigan. In 1973, family income distribution in Indiana had the highest degree of equality--the share of income received by the poorest 20 percent of families was the highest of the four states (and far greater than the nation), and earnings of the top 20 percent were the lowest of the midwestern states (and much lower than the nation).

  By 1986, the income groups had diverged significantly--the bottom group lost about 22 percent of earnings, and the top income quintile increased its share of total income. These trends paralleled those taking place in neighboring states and the country.

By 1986 in Indiana the top 20 percent of Indiana families received more income than the combined income earned by the bottom 60 percent of families

- *Indiana faces the future with a workforce and population that has relatively low educational attainment.* Of all Hoosiers who are 25 years of age and older, about 75.3 percent have completed high school. This compares favorably to other states in the nation; in fact, Indiana's high school graduate ratio is above the national median. However, only about 29 percent of Hoosiers have completed even a single year of post-secondary education. Indiana ranks 14th of the 15 largest states in this measure. The gap gets greater as you move up the educational ladder: less than 15 percent of this same age group had actually completed four years of college, a figure that ranks Indiana 47th among all states. Recent data shows that the state's educational attainment rates are improving, although not at the same rate as the rest of the nation.

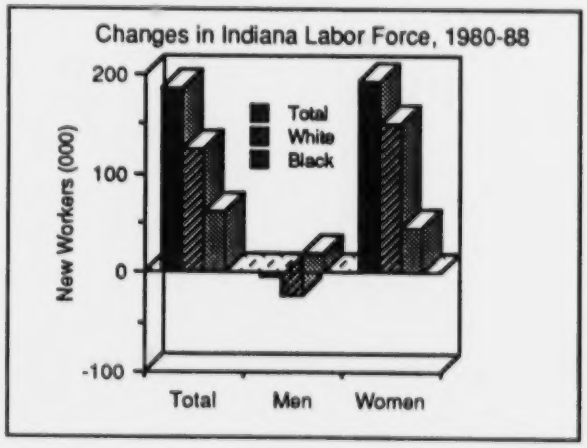
"Indiana doesn't foster career thinking. I come from Gary; they think if you move out of The Region you're giving up your career. You're expected to retire at the steel mill."

--A Health Care Worker in Indianapolis

- *The characteristics of job holders are changing.* That is, Indiana's workforce has different components. The workforce is older, more female, and has a higher percentage of minority workers than it did fifteen years ago. The feminization of the workforce is not an entirely new phenomenon--between 1973 and 1980, about 80 percent of the net new workers (new entrants to the workforce) were female (see Figure Four). This trend has increased in recent years -- between 1980 and 1987 *all* of the net new workers were women (the size of the female labor force increased by 15 percent while the size of the male workforce decreased by 3 percent).

  In 1978, half of all employed males held jobs in blue collar crafts and operative occupations (a share that was the third highest in the nation that year, behind only North Carolina and West Virginia). Employed males in Indiana still remain strongly dependent on craft and semi-skilled operative positions for their livelihoods. During 1988, about

Figure Four



43 percent of employed males still held operator, fabricator, or assembler positions.

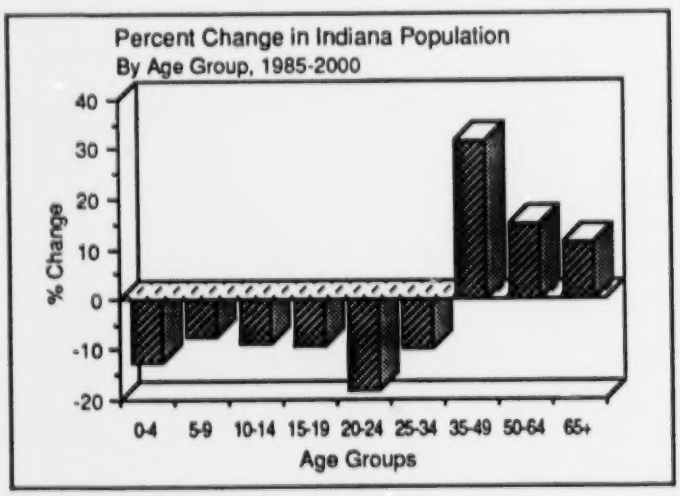
The teenage labor force fell by 14 percent during this same period, reflecting broader demographic trends at work in the state. A far higher percentage of teens worked in Indiana in 1988 than in 1980 (64.3 percent labor force participation rate vs. 59.1 percent in 1980), indicating that the decline in the number of teenagers in the workforce results from fewer teens in the age group, not a drop in the percent of teens who work.

- *Indiana's workforce is aging fast.* Indiana has lost many of its younger citizens over the past years. The size of the teenage workforce declined by 14 percent during the first seven years of the 1980s. The number of children less than age five actually dropped by 4 percent between 1980 and 1985 (compared to a 10 percent growth for this population cohort in the nation). In addition, Indiana has a very high number of workers 55 years of age and older--workers that will retire in the next five to ten years. The state will face some very high replacement demand--about 450,000 workers will retire between now and the year 2000--but must find new workers from a shrinking labor force.

- *New workers in the future will be drawn from groups that tend to lack a lengthy job history and come from educationally and socially disadvantaged backgrounds.* The Indiana Business Research Center projects that Indiana's population will grow by only 2.7 percent between 1985 and 2000 (see Figure Five). The number of people who are 35 years of age or older will grow by almost 500,000 persons (a growth of about 21 percent), but the number of people who are under the age of 35 will decline by about 350,000 persons (a drop of about 11 percent). The median age will grow from 30.7 years to 33.5 years.

The white population is expected to grow more slowly than other racial groups (less than 2 percent growth among whites, about 11 percent for black Hoosiers, and about 21 percent for other non-whites). Across the different age groups, the young white population is declining in size at a much faster rate than minorities --

Figure Five



with the result that the percentage of non-white Hoosiers will increase in almost every age group between now and the year 2000.

- *Indiana's families are changing, too.* The number of families in Indiana dropped by more than 3 percent between 1974 and 1987 (reflecting the loss of about 4 percent of total population). This loss is primarily the result of a lack of job opportunities in the state during the early years of the national economic recovery. A different kind of family unit was left behind--the number of families headed by a single female increased by 80 percent; the number of non-white families increased by 67 percent. These families will be the primary source Indiana firms must draw new workers from in the future. Yet employers and educators must understand the increased barriers that many of these families will face in finding the right kinds of education and job learning.

E. Changes in Occupations and Skill Needs

Indiana's current workforce is likely to be the biggest and best that it will have for the foreseeable future. Yet employers are reporting substantial concerns about the productivity and skill level of today's workers.

- *Indiana employers report a high level of concern about the quality of the existing labor force*--skills deficiencies in certain key occupations threaten many firms' competitiveness and profitability.

"Many manufacturing workers, highly paid by both Indiana and national standards, read and compute at below the 8th grade level. This severely limits our ability to exploit manufacturing innovations like statistical process control."

--A Manager

- *The jobs of the future will develop in a knowledge-based economy* in which workers will exercise greater discretion over their jobs. Jobs will require more and better basic skills, more technical knowledge, as well as an increased ability to work in teams, to adapt to new work environments, and to communicate better orally and in writing.

F. Changes in Attitudes

The context discussed above adds up to the need for changes on the part of workers as well as educators, employers, and others. Yet workers seem less willing to embrace the future.

- *Many Indiana workers are not fully aware of the reasons why the economy is changing.* Despite the tough years of the recession and major changes that are occuring on the job, many workers don't understand the need to

bring new skills to the workplace. JFF research revealed that many Hoosier workers believe that more education and getting higher skills are for someone else--they didn't personally feel the impact of the need to change.

"My workers need to learn that it's a new way of life. My people are probably on a coffee break right now while I am here in this interview."

--A First Line Supervisor

- *Some Hoosiers reported feeling anxious about the declines in manufacturing jobs, viewing service sector jobs as "low paying", "minimum wage", and "dead-end."*

Summary--Indiana's Competitive Reality

These large trends form the competitive environment within which Indiana firms must compete and the ICVTE must develop and implement its long-range plans. They define the context within which education and business find common ground. That context can be simply stated: future jobs require greater skills from more workers; but Indiana's workforce is not yet future literate, and new entrants to the workforce are not likely to bring significantly higher skill levels to the workplace.

Without a major shift in thinking about workforce development, employers and educators face the consequence that the current workforce is likely to be the best available for the foreseeable future. Even though the basic skills of many employees are already not adequate, and most workers lack the critical flexibility skills for the future, there is no reasonable basis to conclude that future entrants to the Indiana labor force will have these skills to greater or even comparable levels. The skill level of the existing workforce may not enable employers to make the changes necessary to stay competitive.

III. What Job Skills Do Workers Need ?

The ICVTE can guide the state's vocational learning system to assure that it accomplishes its broad mission of workforce development. The united efforts of the Commission, state leaders, educators, and the private sector have the opportunity to make a major change in the state's approach to education: Indiana can make the term "vocational graduate" synonymous with having the full spectrum of essential basic skills--the kind of critically-thinking, self-motivated, independent worker that will shape the future workplace.

This essential package of job skills has changed in recent years. Many employers and educators define basic skills with reference to workplace competence in reading, writing, and computation. In reality, with the complexity of technology, new ways of organizing the workplace, and new workforce demographics, the list of skills that most employers now consider 'basic' has expanded dramatically. JIF surveyed employers and workers to document skill needs. Results are reported below, but we first present the context of the 'new basic skills.'

"Employment or financial security means preparing yourself better than others."

--A Kokomo Worker.

A. The 'New Basic Skills'

The best description of new basic skills appears in the publication *Basic Skills*, a report issued by the American Society for Training and Development prepared under a grant from the U.S. Department of Labor, Employment and Training Administration. The new basic skills, according to ASTD, include:

- **Learning-to-learn.** This is an essential skill that every worker must have in order to learn effectively in new situations and to acquire new skills for the future. It provides the basis for lifelong learning for social as well as workplace skills.

- **Competence in reading, writing, and computation.** Society sets its own goals for literacy in the 3 Rs. Viewed only from the perspective of employers, workers must have job or occupational literacy--the ability to perform job-related reading, writing, and computation tasks demanded in the workplace. Vocational programs, especially remediation programs for adult workers, must attempt to function contextually, which means that instruction will be meaningful to workers in terms of their prior knowledge and workplace experience. Job-related computation skills refer to an employee's ability to perform different mathematical tasks such as quantification, computation, measurement, problem-solving, and comprehension.

"Companies are experiencing a dramatically increased need for a more flexible workforce, one in which workers learn broad skills and can work as interchangeable members of a team."

--A manager

- **Communication: oral and listening skills.** Oral communication refers to the exchange of thoughts, ideas and messages between a sender and a receiver. To be an effective communicator, a person needs three component skills--awareness and understanding of his or her dominant style of communication; understanding and valuing communication styles that differ from one's own; and the ability to adjust personal style to a style that differs from yours.
- **Problem-solving.** This skill refers to the ability of a worker to detect the existence of a problem, critically and creatively propose and analyze possible solutions, and choose a viable solution to resolve the issue.
- **Creative thinking.** Creative thinking refers to the use of different forms of thought to visualize innovations and generate ideas to fill a perceived need. Having a workforce with the ability to develop new and relevant ideas is a hallmark of new basic skills.
- **Personal management skills: Self-esteem, motivation/goal setting, employability/career development.** These are the building blocks for good morale and, ultimately, organizational productivity.
- **Group effectiveness skills: Interpersonal, teamwork, negotiation.** These are some of the most critical yet different skill needs for the future workplace. As workers move into a more interdependent environment, the ability to work with others to accomplish job tasks will begin to dominate. Negotiation refers to the resolution of differences through compromise, accommodation, or collaboration.
- **Influence Skills: Organizational effectiveness and leadership.** Quite simply, this is the ability to work through the social and organizational connections that exist within a firm, or between the workplace and the outside

world. Leadership motivates others to understand a goal and move toward accomplishing it.

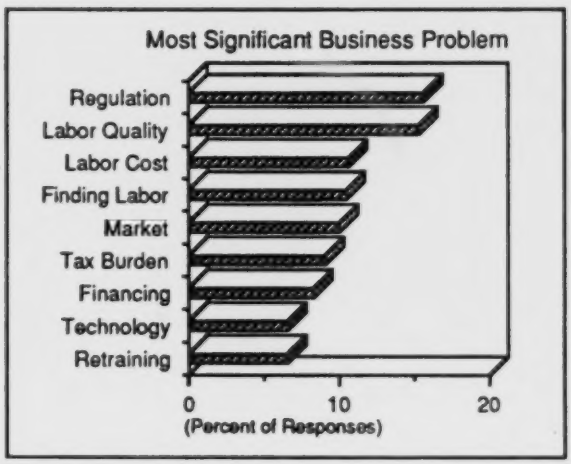
A new supervisor had this to say about 'people management' skills: "I thought you just had to tell someone to do something and it would be done."

--A new supervisor at a health care facility

B. Job Skills in the Indiana Workforce

The Jobs for Indiana's Future program surveyed Indiana employers, and asked them to assess the skill levels of their workers across several of the new basic skills--including reading, math, computer, communication, job-specific, teamwork, problem-solving, adaptability, and attitude. Close to half of all respondents cited labor quality as one of the most serious business problems they face today (see Figure Six). Skill deficiencies among the state's labor force *right now* adversely affect Indiana's competitive profile. Firms reported the most difficulty in hiring, retaining, and training workers for skilled and semi-skilled occupations.

Figure Six

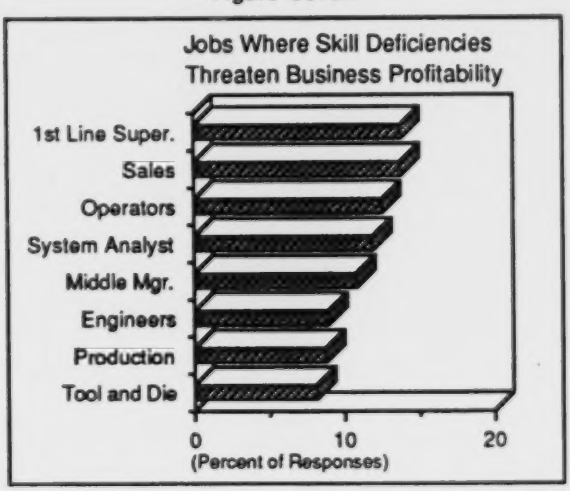


Other key survey findings include the following:

- **Indiana firms report that skill deficiencies in certain key occupations affect efficiency and profitability.** In general, occupations requiring more formal education or specialized knowledge were most likely to be listed as threatening the firm's production (see Figure Seven).

  Among salaried workers, these occupations include first line supervisors, computer analysts, marketing positions, middle managers, and engineers. Among hourly employees, these

Figure Seven



occupations include skilled craft positions such as tool and die workers, electricians, and machinists. Jobs requiring less skills or less specialized training were mentioned less often.

- **Indiana firms report difficulty in hiring, retaining, and training workers in many kinds of occupations. In general, the labor market does not work well for the semi-skilled occupations.** Employers report having the most difficulty finding and retaining qualified workers for jobs historically at the heart of the state's economy--skilled craft workers, machine operators, and general labor all proved problematic.

  Indiana firms reported less difficulty in hiring, retaining, or training workers for professional level jobs that require specialized education or skills--managers, engineers, and technicians.

- **Indiana firms report skill deficiencies in large segments of their workforce and across a wide variety of skills, despite a widespread belief that the vast majority of workers have adequate job specific skills.** Firms were asked to assess the skill levels of their current workforce. They reported whether workers' skills were poor, fair, adequate, or better than adequate across a variety of skills: reading, math, computer, communication, job-specific, problem-solving, adaptability, attitude, and teamwork (see Figure Eight through Figure Sixteen).

  - *Unskilled Workers:* In general, firms thought that unskilled workers were weakest in computer skills, problem solving, reading, math, and communication. Respondents believed workers were

Figure Eight

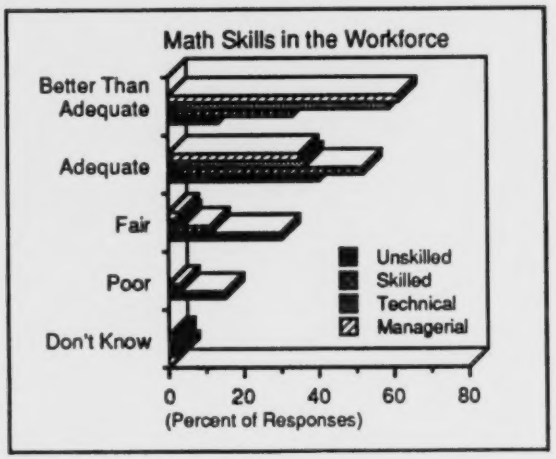
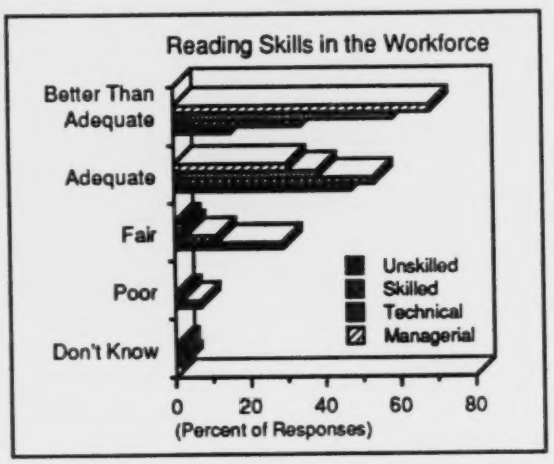


Figure Nine



adequate in job-specific skill and adaptability. Workers were ranked adequate or better than adequate for attitude and teamwork.

* *Skilled Workers:* In general, skilled workers were rated as having better skills than unskilled workers. This is not as obvious as it sounds--skilled workers by definition have a higher level of job-specific skills than others. However, their ranking across a wide variety of job-important skills may differ. The lowest ratings were given in computer skills (42 percent rated workers as less than adequate), communication (24 percent less than adequate), and problem-solving (20 percent). Skilled workers rated much better in math (85 percent), and problem solving (80 percent). The highest ratings for skills were given for reading (87 percent positive), teamwork (88 percent positive), and attitude (87 percent).

Figure Ten

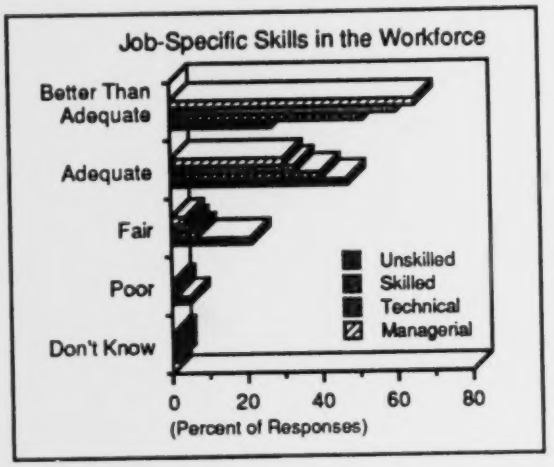
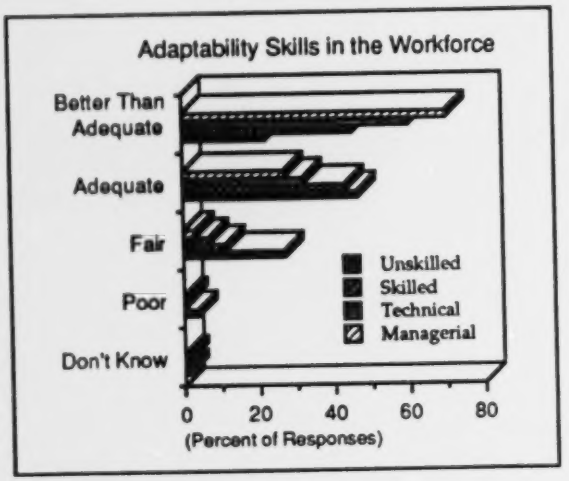


Figure Eleven



* *Technical and Professional Workers:* These workers were rated higher than unskilled and skilled workers. Firms rated technical and professional workers favorably (90 percent or better) in every skill category except computers and communication. In computer skills these workers were rated 70 percent adequate or better and 30 percent less than adequate; in communication skills these workers scored 86 percent adequate or better and 14 percent less than adequate.

* *Managerial Workers:* Managers (who filled out the survey) rated themselves very high. Firms rated managerial workers favorably - 95 percent or better in every skill category except computer skills (70 percent favorable, 24 percent unfavorable, 8 percent didn't know) and communication skills (90 percent favorable, 10 percent less than adequate).

- **Skill deficiencies affect firms in different ways.** Notable deficiencies exist, especially among unskilled and semi-skilled workers. Problems exist in basic skill areas, as well as for skills that will be more critical in the future--such as communication, interpersonal, teamwork, and computer skills. The most serious deficiencies occur in the areas of computer, problem solving, and communication skills. In general, the skill gap narrows for technical, professional, and managerial workers. Four major findings were discerned from the survey data regarding how skill deficiencies affect firms:

Figure Twelve

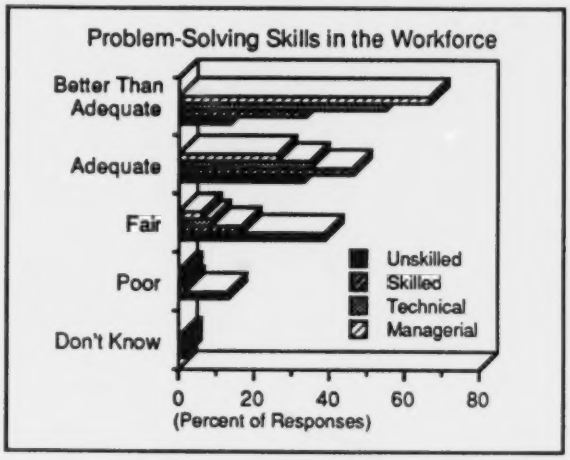
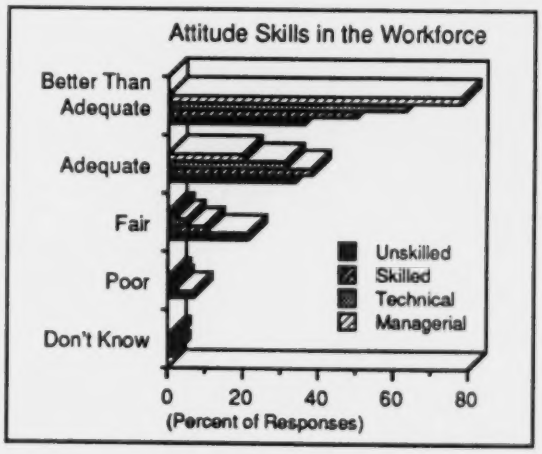


Figure Thirteen



* *Skill deficiencies affect larger firms more than smaller firms.* Larger firms gave significantly lower ratings to workers at all levels (unskilled, skilled, technical and professional, and managerial) for reading skills, math skills, computer skills, and communication skills. No variation by firm size was evident for job-specific, attitude, teamwork, adaptability, and job-specific skills.

In general, Indiana firms rated the skills of managerial workers highest of all occupational groups. However, larger firms gave significantly

lower marks to their managers across all skills--essentially the only negative marks for managers came from larger firms.

* *Deficiencies in basic skills increase among firms that have a younger workforce.* Firms that had a younger workforce rated reading, math, job-specific and attitude skills of unskilled workers lower than the firms with an older workforce. In fact, younger firms rated reading and job-specific skills worse across all occupational groups.

* *Deficiencies in skills critical to the future economy increase among firms with an older workforce.* Skills that are widely acknowledged to be key attributes for the future workforce--communication skills, teamwork skills, and computer skills--were rated lower among firms with an older workforce. Employees for all occupational groups in older firms rated lower for computer skills.

* *Skills that will be more critical in the future economy were rated better for workers in firms where workers are represented by collective bargaining.* The presence of collective bargaining within firms resulted in higher ratings among the skilled, technical, professional and managerial workers for communication, attitude, and teamwork skills.

Figure Fourteen

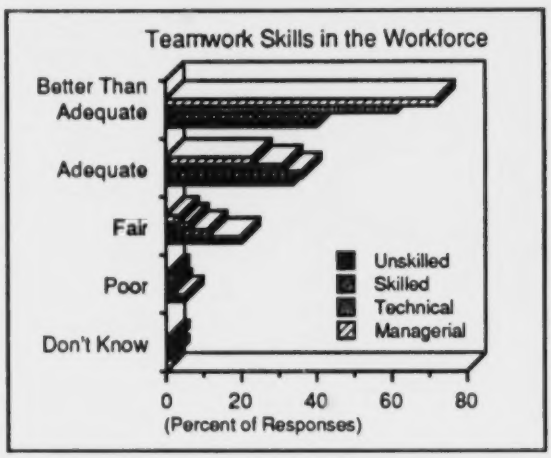
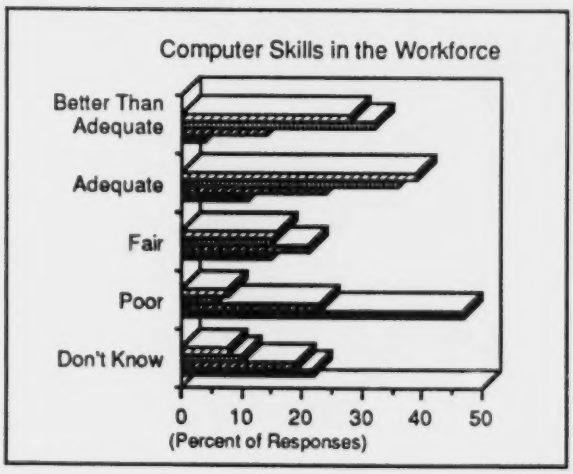
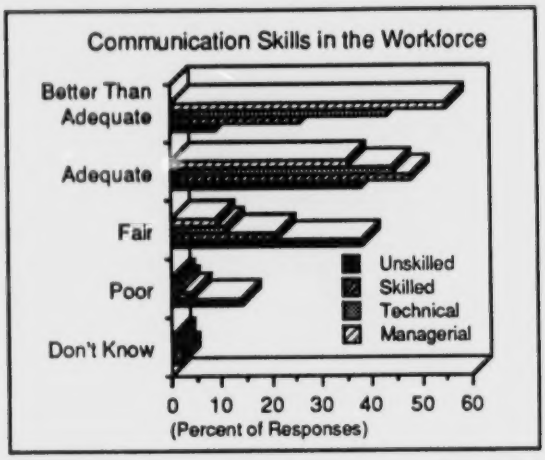


Figure Fifteen



Unionized firms did not vary significantly from non-union firms in any skill rating when controlling for size of firm. That is, lower ratings for basic skills given for union firms were explained by the fact that the firms were large employers, not because they were unionized.

Figure Sixteen



- **Indiana's substantial workforce challenges are likely to increase in the years to come.** Like most states in the country, Indiana operates in a new competitive environment. To compete effectively in the economy, businesses must invest in new technologies. Of the firms surveyed, 85 percent believed that having state-of-the-art technology was important to corporate strategy.

  Continuous changes in technology, in turn, have a profound impact on skill requirements for many firms. Nearly 40 percent of survey respondents reported that technological change in the past three years had increased job skill requirements (but, unfortunately, only 20 percent of all Indiana firms report that they have increased their formal training over the last five years).

"Literacy is an increasingly important concern. But there are no literacy programs here because the union did not want to embarrass its members."

--A shift supervisor

C. Workforce Issues and Small Business

Any strategy to expand access to workplace education will have to reach the smaller firms. Helping small and medium-sized firms be more competitive through greater workforce training is a significant challenge. As in all states, the great majority of business establishments have few employees: about 95 percent of the 119,527 establishments in Indiana in 1986 employed fewer than 50 workers. Three out of four manufacturing establishments in 1986 had fewer than 50 employees.

Only 5 percent of manufacturing establishments in Indiana had 250 or more employees.

Moreover, the restructuring of the U.S. and Indiana economies in the face of intense technological changes is shrinking many large firms. Nationally recognized economists have documented this trend toward downsizing among larger firms and the proliferation of smaller operating units. This change is attributed to changes in the competitive strategies and organizational decisions of large firms.

Blue Cross-Blue Shield of Indiana exemplifies the trend toward downsizing. Blue Cross-Blue Shield has decided to reorganize its corporate structure, spinning off each profit center into a wholly-owned, separate operating unit and leaving only overhead support and management functions in the corporate shell. Each new unit is projected to have less than 200 employees.

The amount of employer-sponsored learning available to employees of small firms is dramatically lower than for employees of the nation's largest firms. Moreover, the training received in smaller firms is predominantly informal. This underprovision has a number of root causes:

- Smaller firms have difficulty maintaining production or services if they let workers off regularly for training courses.
- Smaller firms have a higher employee turnover rate. This is probably related to the limited paths for advancement and lack of fringe benefits characteristic of small firms. Employers are hesitant to absorb training costs they may not recoup because employes leave for other firms.
- Managers of smaller firms are less knowledgeable about training options, and less able to select programs or courses directly and immediately useful to production.
- Smaller firms typically have smaller profit margins and lower capitalization, and are less able to pay for workforce investments.
- Smaller firms are less likely to employ personnel administrators to develop or review training options.

According to JIF's survey results, employees in larger firms received far more formal and informal training than employees of smaller firms. Managers in smaller firms were more than twice as likely to receive no formal training than managers in large firms. Professional, technical, and skilled craft workers in small firms were one-third as likely to have any formal training. Machine operators, clerical, sales, and service workers were one-fourth as likely to have any training.

This does not differ greatly from national figures. According to the U.S. Small Business Administration, only 27 percent of employees in companies with fewer than 25 employees received any training (compared to about half of employees in companies with 500 or more employees). Employers with more than 500 employees provide almost three times as much formal training in the first three months of employment as their smaller counterparts. Workers in smaller firms also pay more for

their own training: workers in smaller firms pay for 77 percent of training done outside their workplace compared to 68 percent for workers in larger firms.

In reality, only the largest firms in the nation–firms of more than 10,000 employees--have the resources, staff, and organizational sophistication to make training central to their competitive strategies and daily operations. A firm with 500 employees may have a personnel director; a firm of over 1,000 employees may have an individual who is designated as in-house trainer. Only at the level of the large corporation are there elaborate, coordinated training procedures in place.

"The half life of an engineer's knowledge is only five to seven years now and dropping fast. Many of our engineers have already lost touch with the technology."

--A Manager

For the small firms that make up the majority of American manufacturing companies, formal training is the exception, not the rule. In service industries, too, size of firm has a powerful effect on the amount of formal learning, the quality of training, where it takes place, and who pays for it.

Regardless of firm size, training of non-supervisory and non-professional employees is limited. Indiana employers reported that managerial and administrative workers are more than twice as likely to have some formal training than any other occupational group.

National statistics confirm this. In a 1977 Conference Board study, 60 percent of the firms surveyed (all of which had 500 or more employees) provided in-house courses for professional-technical workers while only 11 percent of firms provided in-house courses for hourly workers. The emphasis on training for managerial and professional workers creates an ironic imbalance: better educated workers receive a disproportionately large share of training. Workers with four or more years of college, which comprise only about 18 percent of the workforce, constitute 35 percent of trainees. Workers with less than a high school degree, about 23 percent of the labor force, comprise only five percent of the trainees.

D. Implications for Policy Geared Toward Small Business

Institutional mechanisms exist that could accomplish the goal of serving the human resource needs of small firms. Indiana Vocational and Technical College (Ivy Tech), for instance, is regionally located, is mandated to provide training assistance to local firms, and has the potential for playing an important role in reaching smaller companies. The college lacks hard data on its client base, and is therefore unable to specify the distribution of its clients by size. Yet even its own business and industry coordinators acknowledge that the institution is inadequate to serve the needs of smaller firms. Why? This structure has a built-in incentive for working with large employers rather than smaller ones:

- Large firms are more likely to know what they need in the way of workforce development and/or technical training;
- Larger firms are more likely to have a staff position dedicated to relations with training providers;
- Because Ivy Tech business and industry training programs must pay for themselves, there is an institutional bias toward larger firms. As one coordinator phrased it, "Our programs have to be profit driven, so we tend to go with the larger firms--the ones with the money and budget authority to buy training."

Ivy Tech discovered the extent of the problem of reaching small businesses during 1988, when it convened a series of regional meetings that brought together representatives of local small firms to discuss training. In evaluating the effort, an IVTC administrator noted that "the first thing we learned is that most small business owners and managers are not 'training literate.' They don't know how to think about training for their employees; they don't know what is available; they don't know where to begin."

Many of the firms attending these regional meetings argued that they really needed someone to come in and help them develop a training strategy and program. Yet this places an enormous burden on an institution like Ivy Tech, with its very limited resources. The time investment needed to help smaller firms get to the place where they could begin to expand their training efforts--worker assessment, assistance with sources of subsidies or financing, help with ROI calculations for different training options--is too great for existing staffing. Yet, such a strategy might be the best way to help Indiana's economy.

[Ivy Tech is not discussed here to point the finger of blame, nor is it highlighted to argue that it is necessarily the best candidate to improve outreach to small and medium-sized firms. Rather, the Ivy Tech example serves to underscore one important fact: it is hard to build and fund an institution to reach a small business client base. There are significant disincentives involved in making the small business connection, barriers that need addressing when shaping public policy in this field.]

The same institutional problems have surfaced with regard to Indiana's state funded customized training programs--the Basic Industry Re-Training (BIRT) and Training For Profit (TFP) programs. Both programs have been used almost exclusively by the state's largest firms. This is not surprising, nor is Indiana unique in this regard. Large firms know how to 'play the system'--they know where to go for public sector assistance, how to secure it, and they have the political clout to back up their requests.

This means that state dollars for training subsidies have been directed to the firms most likely to provide training by themselves. In such a circumstance, public expenditures for customized training are a license for substitution--displacement by public funds of private monies that would have been spent in any case.

Both large and small firms should have access to state-sponsored training. Large firms, because of their centrality to the state, are also critical to future economic health. Indiana needs to consider ways in which the incentive value of its training programs is used to achieve the most strategic priorities for both large and small firms.

IV. The Vocational Education System in Indiana

A system is defined by its linkages. There are three general dimensions along which the JIF program organized its review of Indiana's vocational learning system:

- *Internal issues:* What goes on in any given school or program, and how can it be improved? What kinds of data are useful to make sure that an accurate picture is drawn of the system as it exists?
- *Links with the private sector:* How well does the system reach out to the private sector and respond to changing needs?
- *Links to the state economic development system:* How well does the vocational learning system reflect the state's economic development strategy? How well is it integrated into state economic development programs and policies?

A. Internal Issues

Indiana's educational system evolved to serve its manufacturing economy. Training in institutions and programs mirrored the type of mass production employment that dominated the state between 1950 and 1970. The educational system prepared workers for fairly static occupations and skill levels in the manufacturing sector (*e.g.*, lots of job-specific skills, but no real emphasis on advanced skills, or even good basic reading skills).

Like many states, Indiana's economy has changed dramatically and left the educational system behind. The output of the education system has adjusted somewhat, but still lags behind the changes reshaping the production of both goods and services. The economy continues to change rapidly, making it hard for education to catch up. Moreover, the rapid pace of economic change means that the educational system must aim at a moving target.

"The head count is critical in our new operating environment. If you're given the okay to hire one or two new people, you'll hire some B.A.s even if they are underutilized initially, because you may not get the chance to hire again for a while."

--A Technician Supervisor

The clear advantage of the vocational education system in this environment is that it is pragmatic, and has demonstrated some flexibility to meet new demands. Indeed, over the course of the twentieth century, vocational education has been asked to serve a variety of purposes: education for occupation-specific training and immediate job placement; education for basic skills and general employability; education for equality of opportunity and access for disadvantaged learners; and education as support for local economic development and firm-specific training.

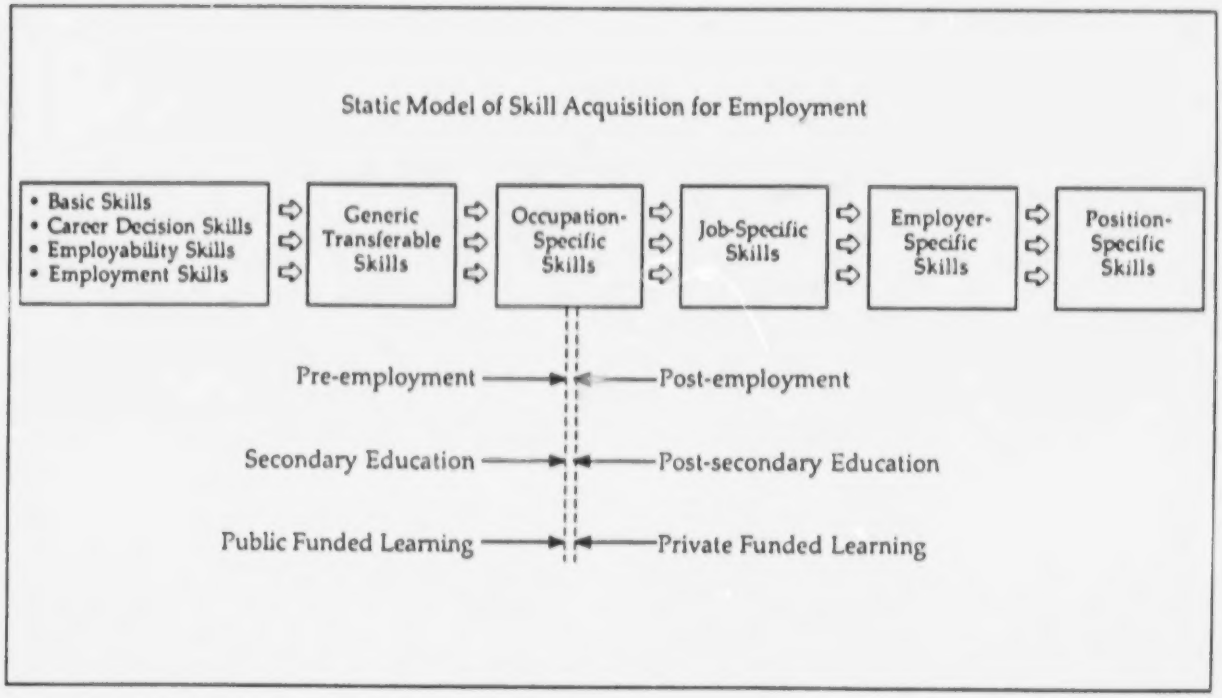
Changing to accommodate the general developmental needs of the workforce is the next evolution of the vocational education system. Given the combination of skill changes and demographics, Indiana must accept the reality that a far higher percentage of vocational learning will necessarily be workplace based. Indiana needs to build on the strengths that already exist in the vocational system to address these new needs.

Figure Seventeen presents a simple model of skill acquisition by the workforce. The flow of skills moves from the general to the specific, from basic (academic) skills through generic transferable skills, occupation specific skills, job-specific skills, employer-specific skills and finally position-specific skills. The model is useful for a number of reasons:

- It shows the additive nature of skill development--how skills build on a base completed at an earlier step.
- It shows how the process for developing occupational skills generally provides a convenient dividing point between skills learned before and after employment, between secondary education and post-secondary education, and between publicly funded learning and privately (employer) funded learning.
- Basic skill deficiencies among workers are affecting Indiana employers, and the 'new' basic skills enlarge the list of basic, generic, transferable skills that workers must have. Figure Seventeen shows that much remediation and education that traditionally happen in publicly funded secondary education will have to be accomplished in the workplace.

The most significant issues within the Indiana workforce involve growing deficiencies in basic skills and employability skills, plus the fact that many occupations now require a wider range of skills than ever before (*e.g.*, technical skills, computer skills, interpersonal skills, teamwork skills, etc.). At the same time, people who need skills training the most are already in the workforce.

Figure Seventeen



Given that reality, the ICVTE's planning function for vocational learning must consider the behavior of employers concerning their expenditures for workforce development--specifically for job training. Job training will remain a large part of a firm's investment in its workforce, and must change to include a significant component for remediation and skill upgrading.

B. Links With The Private Sector

The JIF survey of Indiana employers provides useful information on employer practices in job training that can assist the ICVTE in establishing stronger linkages between the vocational learning system and the business sector. The survey results suggest a need for more and better workplace-based learning. This has significant importance for the Commission. Vocational education is defined today in terms of its secondary and post-secondary institutions. Workplace or employer-based training should be viewed as the third side of the vocational education triangle.

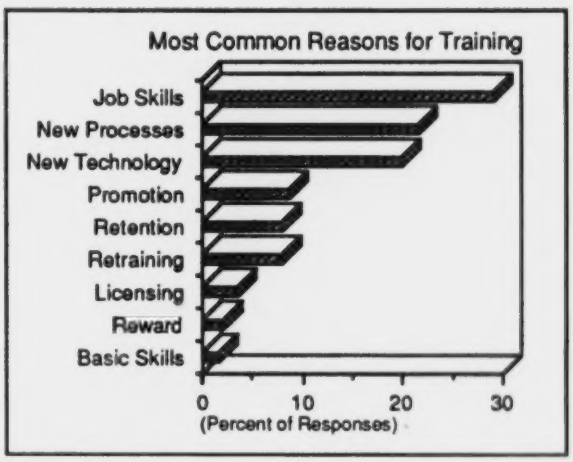
The survey results indicate that the vast majority of firms (70 percent) are satisfied with their existing training options. Less than 20 percent of respondents report dissatisfaction with existing arrangements. Evidently, larger firms (which are most familiar with the training system) and firms with a younger workforce (which reported the greatest skill deficiencies) are most dissatisfied with current options. Several relevant findings stood out:

- **While most firms in Indiana (70 percent) say training is a good investment, they don't seem to believe it.** Most firms would rather hire unskilled or professional workers from outside the firm than retrain an existing employee. Firms are evenly split on what to do about skilled and managerial workers. In general, firms satisfied with existing training options are more likely to retrain workers as opposed to hiring new workers at all levels.
- **Existing training arrangements do not fill the skills gap.** This can be stated in a sequential order:
    - *Despite a positive disposition toward training, Indiana firms provide very little actual training.* The vast majority of workers receive no informal training--over 60 percent of all employers report that their workers spend "0" hours per year in informal training. And while 54 percent of all firms provide some formal training, the vast majority of workers receive no training at all. That is, relatively few workers in firms that do have a formal training system actually get training.

      About 80 percent of Indiana firms (across all occupational areas) report that they have not increased their formal training programs over the

last five years. The amount of training provided to employees varies significantly by the size of firm but not by industry. Larger firms and firms with a younger workforce conduct more employee training.

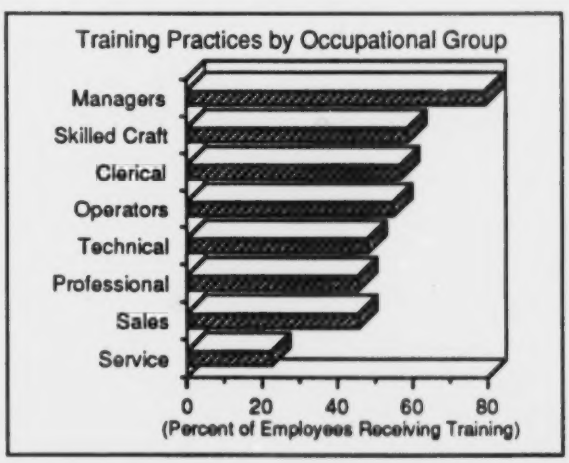
Figure Eighteen



* *Existing training does not fully address all skill deficiencies.* Indiana businesses focus on improving job-specific skills through on-the-job training. The vast majority of businesses (85 percent) say that they provide training most often to increase their workers' job-specific skills (see Figure Eighteen). Yet, according to the way firms rate the quality of their workers, job-specific skills do not pose as much of a problem as other skills. Less than 2 percent of firms use training to enhance basic skills. Only about 4 percent use training to retrain workers for new jobs.

* *Existing training does not reach the employees that have the greatest skill deficiencies.* Managerial workers, whose skills rate far higher than other workers, get the most training. Of all other occupational groups between 70 percent and 75 percent of all employees get 0 hours of training per year (see Figure Nineteen).

Figure Nineteen



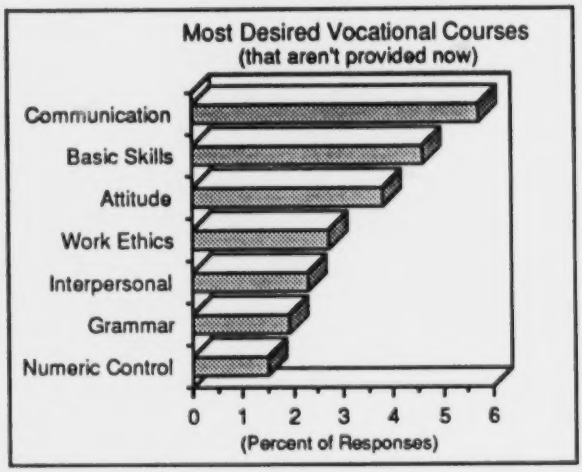
* *The training sources that employers rate most effective are not normally associated with training for basic skills, teamwork,*

communication, and other "future" skills. Employers rated in-house training programs, trade groups, and vendors as quality sources of training. Our research indicates that these tend to be focused on job-specific skills or new technology, and rarely address other skills that employers say they need. There appears to be a very large opportunity for the vocational system to fill this gap.

- **Indiana firms want more programs and courses specifically addressed to skill needs.** Although employers have not met the need themselves, they apparently want courses that meet the skill gap in the workforce. When asked to rank courses they would like to see offered to employees, courses offering training in both "future" and basic skills ranked high (see Figure Twenty).

  New technology ranked high as a reason to provide training. Firms listed several new technological developments as generating course needs in the next three years -- computer literacy, SPC, and CNC all ranked within the top ten course needs.

Figure Twenty



- **Training and retraining may be harder in the future if anticipated labor shortages actually occur.** Firms with a younger workforce and firms in sub-state regions currently experiencing a labor shortage were more apt to state that training is not a good investment because of a high turnover rate. In a labor short market, workers may tend to have a higher turnover rate. If the turnover rate is high, employers may have a disincentive to train more in the future.

In Indiana, both people and institutions (public and private) lag behind where they need to be. Getting institutions and workers up to speed is the ICVTE's greatest challenge. Skill deficiencies exist in key occupations where the public education system can play a role. And, economic transition appears to be affecting the middle- to lower-level workforce that is the real audience for vocational education.

JIF's field work and surveys confirm that Indiana tracks the same problems that exist in U.S. education system: graduates of colleges and universities are fairly competitive in the market place but the public school system breaks down in train-

ing blue-collar workers. This has forced firms to become far more attentive to teaching basic skills to their workers. In 1985, for example, 25 percent of all U.S. firms were offering programs in basic and remedial education. While JIF does not have a quantitative measure of the number or percent of Indiana firms offering remediation, our qualitative judgment suggests that far fewer Indiana firms are actually involved (in fact, less than 2 percent of Indiana firms responding to the JFF survey of employers stated that basic skills training was one of the three most common reasons for all their training investments).

C. Links to the state economic development system

Jobs For the Future interviewed economic development representatives across the state to determine how workforce preparation was taking place within their regions. We talked with directors of economic development district offices, regional and city planning commissions, city chambers of commerce, economic development corporations, and economic development authorities. These groups promote their regional locations for business recruitment and retention, diversify the local industrial base, and promote local action for developing physical infrastructure.

We asked about how these planners viewed workforce issues and the ability of the local vocational education system to produce a quality workforce appropriate for the local labor market. We also tried to find out the kinds of labor market and economic data these development planners typically used and, finally, wanted to know specific ways that demographics and workforce training were accounted for in local economic development plans.

Representatives in seven of the thirteen regions believed that employment and training needs in their region were not met by the current vocational learning system. Only three regions believed that needs were met (and these tended to be rural regions with a somewhat more static economy). The rest of the regions had initiated evaluation projects to assess the match in the local labor markets.

Virtually all the development planners agreed that their local vocational learning systems varied in quality–showing some good programs and some very weak ones. In general, planners reported that local businesses register continuous dissatisfaction with the low performance level of secondary and post-secondary vocational graduates. Local strengths and problems, according to those interviewed were attributed to several factors:

- Instructional quality, which used to vary considerably teacher-by-teacher, has been helped to some degree by the availability of high quality satellite educational programs.
- Institutional change within the IVTC system has helped increase the quality of some post-secondary offerings. Ivy Tech recently decentralized its program approval process, authorizing local campuses to add or delete

courses and programs. Most interviewees felt that decentralization offered the possibility that a local Ivy Tech school could target specific local populations more responsively, and could voice new and creative ideas about educational delivery. Employers, we found, responded well to working cooperatively with Ivy Tech as a result of decentralization. Several of the regional representatives, however, reported that decentralization had engendered very little change.

- Secondary vocational education was discussed in far less detail by the economic development sector. Very often, our interviewees reported that secondary vocational programs were invisible institutions that rarely sought input from local businesses about skill needs or the match between program graduates and labor demand. In fact, the planners conveyed sharp criticism that secondary vocational education is seen primarily as a teacher-driven curriculum in which employers' needs are not met and that very few teachers could claim personal familiarity with the operations of private firms.
- The lack of articulation between IVTC and most other in-state post-secondary programs creates a very real and inhibiting barrier to support of the vocational system. Employers are reluctant to use Ivy Tech resources for workforce education because those credits don't transfer if the employee later chooses to attend a degree program at a different institution (meaning that any tuition or fees paid by the employer have to be incurred again).
- Employers and development planners recommended that vocational programs at both the secondary and post-secondary level develop a stronger basic skills content. Several local leaders suggested that many vocational programs adhere too strictly to a narrow function of training for job-specific skills on the assumption that basic skills education is the responsibility of other parts of the state's educational system. As a result, basic skills deficiencies within the workforce have been passed on for employers to resolve.
- There appears to be a serious gap between the education and training needs defined by industry and those defined by teachers and educational administrators.

Very few economic development representatives believed that they had an adequate local process for structuring economic development input into local or regional education and training plans. Some regions had successful models, usually involving formally structured planning groups with regularly scheduled meetings involving multi-sector representation.

Of the regions that had no such formal coordination effort in place, most saw a direct need for one. However, those who were looking to actively improve coordination were often frustrated at the parochialism of different key players. A basic problem to overcome involves differences in educational philosophy and in simple political party splits. A few representatives noted the virtual impossibility of even getting most local leaders to agree that workforce problems exist. They cited a

peculiar Hoosier penchant for 'ignoring bad news and other things that make you uncomfortable.'

D. A Need for Economic Data

Indiana needs, but lacks, a good, credible source of useful and independent information about its economy, about the industrial structure of the state and how it it changes, about the qualitative changes in the labor market, and about demographic change. There are many groups, agencies, and institutions that are involved in the collection, assembly, analysis and distribution of economic data, but the system, such as it is, lacks the user friendliness necessary for good planning.

The limitations of the state's existing system are readily apparent:

- In JIF's discussions with local economic development officials, *all* of the representatives believed that they had more than sufficient access to data sources (including resources from state agencies, from university facilities, and from national sources) but *none* of them could cite how general national or statewide trends were showing up in their local economies.
- Virtually none of the local economic developers were aware of Indiana's major demographic changes and degree of outmigration--influences that will combine to cause dramatic labor shortages across the state in the next decade.
- Virtually none of the local economic developers were aware of the fact that all of Indiana's new workers are women. Economic developers are not aware of how the feminization of the labor force effects job creation, nor do they realize that women's needs must be factored into local economic development strategies.
- Very few people in the state appreciated the degree to which a few durable goods manufacturing industries still dominate Indiana's economy. Most seem to believe that Indiana has made the transition to a thriving technology-driven service-based economy.
- A survey of vocational educators revealed the lack of good economic information. Almost half of the educators were not satisfied with the information they had on Indiana's changing economy. Educators ranked state economic and occupational data last on the list of information sources. Eighty percent of the educators surveyed were not satisfied with the knowledge their guidance counselors have of Indiana's changing economy. Ninety-six percent of those surveyed believe that vocational students have a poor to fair understanding of Indiana's economic picture and what those changes mean for their future.
- The Indiana Department of Commerce, the public agency charged with knowing the most about Indiana's business climate, has not prepared any

specific studies of the competitive or market environment of key industries for more than three years.

- The majority of labor market information prepared by state agencies is done to satisfy the minimum work requirement of the U. S. Bureau of Labor Statistics.

V. The JIF Action Plan

Given the urgency dictated by the context of change, the JIF program suggests several specific actions that the ICVTE should take to move the vocational learning system forward to meet the workplace demands of the future. The ICVTE needs to establish itself as a highly visible leader in planning and promoting continuous workplace education. It needs to move the system to the point where it can address emerging skill and labor needs proactively.

The Commission must devote a high priority to developing a consensus among all leaders for ways to meet the state's workforce needs. The effort to assure that Indiana will have a skilled and competitive workforce in the future presents challenges to educators, state and local leaders, the private sector, labor organizations, and workers. The Commission, with careful attention and support, is capable of playing a central role in communicating and coordinating action among all sectors.

As stated at the outset, the challenge engendered by economic transition requires more than just tinkering at the margins of public educational policy. It requires a reconceptualization of all of the state's institutions and programs, to make them fit together and work as a system.

Action Plan: Six Strategies for Success

I. Build a vocational learning system.

II. Target job related learning to the jobs of the future, not of the past.

III. Ensure the quality of vocational education graduates so that being a vocational education graduate is synonymous with having state-of-the-art critical thinking and other future skills.

IV. Support and strengthen economic development activities within the state.

V. Encourage greater involvement from the private sector.

VI. Communicate the need to prepare Hoosiers for a competitive future.

I. Strengthen the vocational learning system

The Commission, together with the Governor, the Legislature, and every vocational education institution, should move to make Indiana the first state in the nation to set and act on a vision of the vocational learning system as a process of continuous education for all categories of occupations and all sizes of companies. Ideally, the vocational learning system should be a "seamless web" from the perspective of its users--both students and employers. And, looked at from a broader perspective, the vocational learning system must be fully integrated with all education delivery systems.

Therefore, the ICVTE should undertake specifically to:

- **Make Indiana the first state in the nation to allow full credit transfer between educational institutions.** Indiana has made great progress in addressing program articulation in specialized areas. But the state needs to move farther and faster to really achieve a system that appears as a "seamless web" to the user. Full articulation agreements between institutions would allow a person to continue their education without unnecessary repetition.
- **Improve the school-to-work transition by expanding the use of structured job learning.** Indiana must make far more efficient use of the few young workers it has, if the state is to remain competitive. The recent Jobs For Graduates program is a great start for the many young entrants to the labor force. Common solutions include greater use of internships, cooperative placements, and apprenticeship programs which place students in a working environment that is related to his or her academic learning.
- **Implement regional information and planning structures.** The loss of funding for the state's regional vocational planning councils is of significance to the Commission. Most trends point to the need for government to rethink how it prepares and delivers services--decentralization and individual level action is the key. Each region should develop an active planning group to better understand changing workforce needs and to develop action to deliver the right education and training.
- **Encourage general academic educators and vocational educators to see themselves as part of the same team.** Indiana needs to move to an education system that integrates the best of both approaches.

II. Target job related learning to the jobs of the future, not of the past

Indiana's public sector educators need to know a great deal more about specific labor demand and skill needs within the workplace. Because of changes in the economy and expected labor shortages, the education system must anticipate and plan for labor force needs, not react to them in a crisis. Yet, it is not enough to look at existing skill gaps when matching labor demand with labor supply. Like all competitive firms operating in an uncertain world, the ICVTE must look to likely changes in job requirements and how those will affect skills of future workers. This challenge doubles the difficulties of vocational education planning: not only must the vocational learning system immediately address the skill gaps that exist with today's workforce in today's occupations, but the system must implement ways to better understand jobs and skills as they change.

- **Focus vocational learning resources to where the clients are located: at the workplace.** ICVTE can facilitate the delivery of education and training services that are close to the user. Promote the workplace as a place of continuous learning--a place for eliminating deficiencies in basic skills, for acquiring new technical skills, and for understanding the future skills.
- **Develop a strategy to replace retiring skilled labor.** In part, this requires knowing which workers will be leaving from which jobs and from which companies. Both firms and institutions need to be ready with learning system and career guidance assistance to move new workers into these occupations. ICVTE needs to encourage support from other state agencies, especially IDETS or the Department of Commerce, to develop ways to track these issues.
- **Improve the tracking and understanding of occupational change in Indiana.** Economic transition puts the greatest stress on a few key occupations within certain industries that are critical to the state's economy. The Commission should see that the state's economic information provides useful qualitative data that can be reported regularly to the institutions that must respond with adjusted curricula.
- **Establish a network of industrial coordinators to help employers in their regions determine employee training needs.** Some states make sure these coordinators are expert in matters of production technology, business organization and management, as well as education and training. Consulting services should be free of charge and require no obligation of the client to accept recommendations.
- **Encourage increased training practices for the state's small business sector.** Any attempt to increase the amount of workforce learning in Indiana must address directly and creatively the problem of underprovision of education and training to workers in small and mid-sized firms. This will require strategies designed to address the particular problems of those firms: (a)

lack of information on training options; (b) lack of financial resources to internalize training costs; (c) lack of market power to make sure that program or curriculum offerings are a good fit with small business needs.

Trade associations at the industry level and chambers of commerce at the local or state level should organize outreach programs to help smaller firms improve their knowledge of and ability to evaluate programs and courses available from both public and private sector providers. In Indiana, where the Indiana Chamber of Commerce runs the SBA-funded small business development centers--the only state in the country with this structure for SBDCs--the Chamber might take a lead role.

The creation of the Indiana Strategic Development Fund by the Indiana General Assembly could provide support for this effort. The Fund was established to encourage businesses to collaborate in development efforts where it was difficult to perform separately.

- **Target More Training Subsidies to Smaller Firms.** Across the nation, state-funded job training programs have become a standard part of a state's economic development strategy. However, as the experience of BIRT and TFP in Indiana illustrate, these subsidies generally go to the large employers in a state or to large employers relocating in-state. Indiana needs to return the incentive value to its customized training programs to assure that scarce public dollars are used in the most efficient ways possible.
- **Establish a "Small Business Training Team" that can help small businesses improve their on-the-job training efforts and simplify their task of sorting through outside training programs.**

III. Ensure the quality of vocational education graduates so that being a vocational graduate is synonymous with having state-of-the-art critical thinking and other future skills.

The vocational learning curriculum must lead to demonstrable proficiencies in all basic skills--not just reading, writing, and computation, but the full range of 'new basic skills.' All elements of the system--schools, private companies, unions, and state training programs--need to emphasize competency-based learning for skills as well as content. Every ten minutes of instruction must be the highest quality possible.

- **Vocational education graduates must be able to shape their own workplace--they must be well educated in all skill areas, in new technologies, and in new ways of doing business so they can become sources of information and inspiration to their employers and fellow employees.**
- **The state must promote professional development among vocational teachers at all levels.** There are four major efforts to address here:

- Teaching professionals must have a greater understanding of the private sector--the jobs and organizations for which they are preparing graduates. The Commission should promote greater use of internship placements for full-time instructors.
- To accommodate the varied groups of workers and students that will go through the vocational system in the coming years, teachers will have to be far more sensitive to different individual learning styles and to a wider variety of workplace skill applications.
- Teachers need to concentrate on the remediation needs of learners.
- Teachers need to develop new ways of teaching the broader future skills to assure program graduates have demonstrable competencies.

IV. Support and strengthen economic development activities within the state

State and local leaders in Indiana must keep in mind the overriding importance of strengthening the state's economy by encouraging growth in higher-wage, higher value-added industries.

- Improving the future wages of Indiana workers will require actions on a number of fronts. Real absolute and relative wage improvements will require increases in labor productivity in each major segment of the Indiana economy. Productivity improvements can be supported by providing industry with a workforce that is well grounded in the academic basics, equipped with technical skills, trainable and flexible. Having higher and broader skills will affect staffing patterns and internal mobility paths, because it will enable workers to be assigned more diverse responsibilities to increase output potential.
- Economic development efforts targeted at retaining and expanding the high value-added components of manufacturing and attracting higher value-added service industries can play a critical role in productivity improvement. Indiana's service sector is a relatively low wage sector, with underrepresentation of key business service and professional service industries that offer a greater number of professional/management positions and accompanying higher earnings.
- Employment opportunities for young college graduates are directly influenced by the growth and character of the state's business service sector. If Indiana's youth are to be encouraged to attend college, and remain in the state after graduation, greater opportunities in financial, business, and professional services should be encouraged.

V. Encourage greater involvement from the private sector

The ICVTE must take a central position representing the interests of the state in working to encourage greater private sector support for new ways of vocational learning. The ICVTE, like all agencies in the state, should remember the basic trend that is shaping future learning: the traditional distinctions between job training and vocational education are less and less obvious. The workplace of the future will be a place of integrated learning for all workers. In that sense, it is vocational education in its purest form.

- **Increase the human resource investments among the private sector.** Estimates suggest that American companies spend about one percent of their revenues on worker training and education. Indiana firms should take the lead in making strategic investments in the workforce by increasing the amounts spent on labor development to four percent of gross revenue, which is the estimated level of investment practiced by firms in leading industrialized countries throughout the world.
- **Large firms that have already internalized many of the costs of developing a training strategy can help smaller firms reduce the costs of training their workers.** JIF recommends three approaches for how this could work: (a) large firms can train the small business trainer, providing an opportunity for small businesses to send one employee to the large firm's internal training program who can then go back to his or her firm and train others; (b) large firms can offer their facilities for use by small business training consortia; and (c) large firms can provide training directly to small business employees or provide specialized training for their in-state suppliers and subcontractors in a variety of areas.
- **Labor unions should help organize training for employees in certain firms and industries, keeping costs down by achieving economies unavailable to individual firms.** In certain industries, where the percentage of unionized workers is significant and the fragmentation of the industry is extensive, the union is often able to take the lead in organizing smaller firms for initiatives they would not otherwise take.
- **The public and private sectors should work together to promote management development for smaller firms.** A large segment of the Indiana economy hasn't yet made the transition to new styles of workplace organization combined with effective use of technology, especially in small and medium sized firms. Many of the lessons learned by the multi-nationals in terms of business organization, education and training of workforce, etc., are lessons that can provide guidance to the smaller firms.

VI. Communicate the need to prepare Indiana for a competitive future

Everyone faces obstacles in accepting change, but having a good understanding of why change is occurring helps break the barriers. It is the role of a public education and communication efforts to explain the changing economy and to show how change can equal exciting opportunities for all Hoosiers.

A public education and communication strategy for the ICVTE should concentrate on meeting the following goals:

- To strengthen the link throughout the state between education, economic development delivery systems, and all employers.
- To take the lead in identifying and acting on emerging workforce development issues.
- To bring in new players to participate in the ICVTE's workforce development efforts.
- To expand and intensify ICVTE's partnership efforts through regular and specific communication programs.
- To marshall support for the JIF recommendations and the Commission's on-going efforts.
- To initiate on-going, multi-sector strategic planning and action through a series of interactive meetings in 14 Indiana regions on the implications of economic change in Indiana and in each local region.

To meet these goals, the ICVTE should concentrate on using communication efforts in five key ways.

- **Communication is a means through which the ICVTE can listen.** Through listening, the ICVTE can evaluate and improve all vocational learning programs. To achieve this purpose, the ICVTE should concentrate on listening to economic development groups, private industry (including small to mid-sized employers) other educational groups, and students. The existing technical committees provide a beginning avenue for learning about different changes affecting workforce preparation. More consistent and more direct contact, however, with all of the above audiences would strengthen the ICVTE's knowledge base as well as its image throughout the state.
- **Communication is a means through which the ICVTE can collaborate.** A communication effort can be designed to bring in other key actors to participate in the ICVTE's action efforts. Collaboration efforts with private industry, labor, other education groups, community based organizations, and

other state agencies, can occur through a regular schedule of regional meetings, or through working with other partners to implement JIF recommendations.

- **Communication is a means through which the ICVTE can help others respond to the workforce challenge.** Many groups need to be better educated about economic change. Communication efforts could consist of developing education tools for employers such as a seminar series or videotape and workbook curriculum to help companies develop human resource plans for introducing new integrated technologies. The ICVTE could also institute regular professional development seminars for vocational teachers to learn about the economic trends, the implications of these trends for their teaching, and how they can better meet the challenge of teaching for a competitive workforce.
- **Communication is a means through which the ICVTE can convince and build support for specific change.** To implement new policies and programs requires assuring a clear understanding of the reasons for initiating the change and exactly how the proposed action will help. This kind of communication should be pursued with top state leaders, local leaders, key sectors involved with the particular policy change, other state agencies and the press. The best way to assure that this information is communicated is through a series of briefings about the proposed initiative to the key potential actors and to the press.
- **Communication is the means through which the ICVTE will raise awareness.** The more people understand how the economy is changing, how structural changes demand that Indiana develop its own, highly qualified workforce, and that vocational education is becoming an important means for doing this, the more people will be willing to participate in the effort.

SEIZING THE FUTURE:

A COMMITMENT TO COMPETITIVENESS

Mississippi Special Task Force
For Economic Development Planning

December 1989

THE TASK FORCE

The Special Task Force for Economic Development Planning was created by the Legislature and appointed by the Governor to develop a long-term strategy to revitalize Mississippi's economy and help it become globally competitive.

Chaired by former State Treasurer Bill Cole, the task force began its work in late 1988. Four committees were created: finance; economic process; human resources; and government, legal, regulatory and infrastructure. To aid its work, the task force held seven regional congresses with participation from over 500 business and community leaders across the state. A survey of approximately 8000 employers was conducted, and focus group meetings with citizens were held in three locations in the state. The background w of the committees and the results of the public participation activities are provided and available in separate reports to the task force

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CHAIRMAN'S LETTER

"If we are to move forward with urgency, we must realize that changes in our economic climates begin when the public and private leadership agree that they need to take steps together to build the capacity of the state's economy."

I am pleased to submit the report of the Special Task Force on Economic Development Planning which has recently conducted a wide range and comprehensive analysis of the problems and potential of our state. Our report recognizes the strengths of our state, our opportunities as well as the challenges we face.

It is clear that in this dramatically changing world Mississippi must be prepared to compete if we are to fully participate in a global economic environment.

This will require a broader view of economic development as well as a comprehensive strategic approach to capacity building.

We must recognize that economic development is not just an event, but is a process with an interdependence of issues, from health care to highways and education to hazardous waste, affecting our economic future.

While our task force has not developed a detailed road map for the future, we have attempted to set a course, to create a focus on an economic development strategy for the future. This focus is a study which recognizes the competitive environment of a global economy and the need for a Mississippi with competitive people, competitive businesses and competitive communities which can respond to the challenges of the future and achieve economic growth.

Our future success cannot depend upon Mississippi's ability to compete on the basis of money, whether it be low cost competition now centered in the Third World or in expensive new programs requiring additional taxes. The challenge is to determine our willingness, to plan better to use our resources more effectively, make investments where they count and be more innovative, if we are to build a more competitive Mississippi.

If we are to move forward with urgency, we must realize that changes in our economic climates begin when the public and private leadership agree that they need to take steps together to build the capacity of the state's economy.

We have concluded that Mississippi, our people, our resources, our opportunities, provide us the capability to be a more competitive state in the expanding global economy. The question which remains is whether or not we have the willingness to do what is necessary to ensure that competition.

Respectfully submitted,

Bill Cole

Bill Cole
Chairman

MAKING A COMMITMENT TO THE FUTURE

"We must prepare people to make jobs, not just take jobs."

Dr. Alferdteen Harris
Jackson State University, 1989

The job of the Special Task Force For Economic Development Planning was to develop a long-term strategy to revitalize Mississippi's economy and help it become globally competitive.

Boiled down to its essentials, what this means is that:

Our goal is to create a society that supports a rising standard of living for all Mississippi citizens — no matter who they are, no matter where they live.

No matter who they are — black or white, urban or rural.

No matter where they live — hills, coast, or Delta.

Our objectives are simple: to create competitive people, competitive businesses, and competitive communities.

Achieving these objectives, however, will not be easy; we have generations of underinvestment to surmount. But the alternative — persistent poverty, deteriorating communities, and a decline in our industrial base — is not acceptable. We have the strength for this task, if we can muster the will. Mississippi's people have been tested by adversity like no other in this nation. Mississippi's people have a special pride which has always allowed us to pull together when we had to. Now is one of those times, as we face the challenge of building a competitive society in a new global economy.

The Mississippi Commitment

If we are going to succeed, once and for all, at gaining control over our own economic destiny, we are going to have to do it ourselves. *There is no single industry or company that we can recruit capable of delivering us into prosperity. There is no single government program that will bail us out. Indeed, it is not solely government's job to achieve this goal. It isn't even business's sole job.*

It's everybody's job. Achieving our goal of a rising standard of living for all Mississippians will require a commitment by every individual, business, and community in Mississippi to mobilize what resources each has available to become globally competitive.

Individuals are going to have to embrace the reality that education and training is something you do throughout your life, and that only by putting something into society can we expect to get something back.

Communities are going to have to look within themselves for the sources of economic growth and stop waiting for it to be delivered to them. People within our communities must work hand in hand on the urgent needs that face us; and work with fellow communities on projects that require joint action.

Businesses are going to have to commit themselves to continuous investments in delivering quality goods and services, and in training their people.

Banks are going to have to change their lending practices to reflect the changed financing needs of today's businesses.

State and local government is going to have to be more responsive, more flexible, and more inventive about how it uses the limited resources at its discretion to spur economic development.

And Mississippi as a whole is going to have to make it possible for minorities and the most disadvantaged among us to become full participants in Mississippi's economy.

For those who make these commit-

ments, Mississippi makes this pledge:

If you invest in yourselves, we will invest in you.

This is the *Mississippi Commitment*. It is a commitment we must make to each other if we are finally going to seize the future and make it our own. This commitment to mutual responsibility, action, and investment is the very heart of Mississippi's economic development strategy.

The strategic recommendations presented in this report address the steps Mississippians need to take now to create a rising standard of living for all citizens. They are not small steps. They require a fundamental re-thinking of how economic development has to happen, and the roles each part of society has to play. If we are to reach our goal in a changed world economy, we need to do a lot of things differently. We can't rely on low-wage jobs. We can't look solely for outside saviors in the form of "plants" or government help. We can't tolerate any more racial prejudice and partitioning.

A new economic success can be built on beliefs that have always been part of Mississippi — Mississippi's people are proud, hard-working and our greatest asset — Mississippi communities are special places to live and work — Mississippi built goods can and will be the best. These values have always been at our core and must fuel a new era of growth for all Mississippi citizens, communities, and companies.

The restructuring of Mississippi's economy should be guided by several basic principles:

- A commitment to achieve global standards of excellence — whether in terms of personal achievement, product quality, or public services;

- A commitment to continuously improve — in the skills each of us possesses, in the products and services we produce, and in the programs we provide to help our citizens;

- A commitment to invest in Mississippi — in the skills and abilities of the people who are our greatest economic asset, in the businesses that already exist or may be born in Mississippi, and in the community services upon which they depend;

- A commitment to meet customers' needs — both the customers of our businesses and the customers of our public services; and finally,

- A commitment to work together — to build new partnerships between: individuals who have been divided by race, class, or location, businesses that have seen themselves as competitors, communities that have seen themselves as rivals, and government programs that have worked at cross-purposes.

Legacies Of Dependency

As Mississippi looks ahead to the challenges of the next century, it does so fighting out from under a legacy of dependency. For generations, Mississippi has been a paternalistic society — timber companies, railroads, plantation owners, plant owners (often from far away), the government — handed out the "goodies" in the form of jobs, land, money. There was never enough of any of it to go around. *Over the years, without the development of a strong middle class and a diverse economy, each Mississippi "boom" dried up quickly and left behind worn out resources, impoverished communities, and successive generations of Mississippians poorer than other Americans and poorly prepared to face the future.*

This legacy — and the fear of change that accompanies it — is insidious and persistent. It dominates our thinking about economic development even today: ask almost any local official in Mississippi what you can do to help his community's economy and the answer is typically: "Bring us a plant." It's seldom: "Show us how to help our existing businesses to grow." It's seldom: "Help us figure out how to change our town so that it is attractive to business."

Despite steady growth until the mid-1970's, we are still struggling with the stubborn evidence of this legacy. We all know the statistics. We don't want to hear them any more, we want to change them. And we are beginning to make progress, but we need to move faster. To be able to change more completely we must understand clearly where our economy has been and where we find ourselves today.

THE AGRICULTURAL EMPIRE — A MIXED BLESSING

> "In other more urbanized sections of the country, change has traditionally been viewed as the very life blood of progress, but not in Mississippi during the first half of the twentieth century."
>
> **F. John Wade**
> **Mississippi Research and Development Center, 1978**

Mississippi has always been "land rich and cash poor." Even during the period just before the Civil War, when Mississippi was the fifth richest state in the nation, its wealth was based on property — land and slaves. From the exploitation of both we produced a wide range of raw agricultural materials, but the real wealth was created elsewhere when those raw materials were processed into higher value goods. Mississippi was so busy making money from its raw materials, that it didn't do anything else — while "barren" states like Massachusetts and New Hampshire, took our raw materials, combined them with brains and machinery to produce goods they sold back to us.

After the war, Mississippi turned once again to the land. But instead of developing a diversified agricultural economy, Mississippi's landlords (and their tenants and sharecroppers) perpetuated a single crop economy — enormously profitable when prices were high but terribly vulnerable to the smallest shifts in either supply or demand. What wealth there was continued to be exported from the state. While some Mississippians made a ton of money, most people led a hand-to-mouth existence well into the current century.

To counter weak farm income, landowners and local officials turned to the state's other great resource, its forests. Even before the turn of the century, there were more than 300 lumber mills in Mississippi, many built to handle the trees cut to make way for more cotton. After the turn of the century, timber cutting became a major economic activity. Between 1910 and 1930 alone, timber companies had cut some 30 billion board feet of lumber and shipped it out of the state.

But the timber industry never offset

the sagging farm economy and by the late 1920's, with the rapid mechanization of agriculture, the arrival of the boll weevil, and the growing Depression, Mississippi added a new export: people. Tens of thousands of black and white Mississippians abandoned the farms in the Delta and the hills and headed North.

"Recruiting" A New Economy

The Great Migration, which continued through the 1950's (we lost nearly half of our young black adults between 1940 and 1950 alone), represented an immediate threat to what was left of Mississippi's economy and to the state's small middle class — its lawyers, merchants, and bankers. *In 1936, looking for an alternative to agriculture, Mississippi invented industrial recruiting — the Balance Agriculture With Industry (BAWI) program — and it remains today what most people think of when they think about economic development.*

BAWI was a stroke of marketing genius. It managed to convert some of what today seem like liabilities — our poorly educated work force, our low tax-base, our undeveloped communities and public facilities, lack of government oversight — into tangible assets, by offering those attributes to northern corporations as a more amenable "business climate" for their manufacturing plants. And when incentives like tax forgiveness, subsidized buildings, tax-free bonds, and low wage "trainees" were added, the northern factories — especially the ones that were beginning to feel the pinch of competition — headed to Mississippi in droves. Soon other southern states began copying Mississippi's innovation and by the end of World War II virtually every state in the nation was in the business of "smokestack chasing."

BAWI was a success. Per capita income in Mississippi jumped from just over one-third of the U.S. average in 1940 to nearly half by 1950. By 1970 it reached two-thirds. Not only did it "balance agriculture with industry," it made manufacturing our leading economic sector. In 1940, only 56,000 Mississippians worked in manufacturing. By 1966, manufacturing employment outstripped agriculture for the first time, and by 1980, 200,000 of our workers were in manufacturing. Today, the percentage of our work force employed in manufacturing is higher than the U.S. average.

But BAWI was a qualified success. It left us vulnerable when the new "national" economy, whose emergence first allowed firms to move to Mississippi, became an "international" economy. *In retrospect, it's become clear that while BAWI provided new jobs for a time, it attracted precisely the businesses most likely to pack up when a cheaper place became accessible.* And it did little to nurture companies that would build the basis for sustainable economic growth and pay good wages in the new, competitive global economy. Many (though not all) of the businesses attracted to the state by BAWI's incentives were less interested in building up Mississippi than in fleeing the forces of modernization in the North. They found in Mississippi a state willing to pay them to get established and just as committed to low wages, minimum government oversight, opposition to unionization, and low taxes as they were.

For a while, BAWI was a good bargain. It created better jobs than those available within the state and it led to higher average wages. Then, something interesting happened. Starting in 1972, incomes in Mississippi started to slide compared to the rest of the nation. From 1979 to 1987, employment in Mississippi grew less than a third as fast as in the nation as a whole

The clearest failing of an economy dependent on low-wage, low-skill manufacturing and agricultural production is that it fails to cultivate the one asset most needed in a new global economy based on quality and innovation — people and their skills. When low-wage jobs pack up and leave, they leave poorly skilled, less educated people behind. Today companies that make higher value-added goods — that pay good wages — are moving to places where education and workforce skills are highest. The evidence is clear that in Mississippi today the companies trying to stay competitive are doing so by upgrading to better quality and are involved in more sophisticated production — and they need better educated and skilled people to do it.

Historically, Mississippi's economy never cultivated people, their education, and the skills that would then help in creating and attracting more modern businesses. Another example of how this has affected the Mississippi economy is revealed in the fact that incomes have

declined and employment has grown slowly in several of the sectors that have grown rapidly elsewhere in the country — trade and services. Employment in services from '79 - '87 grew 41 percent nationwide, but only 17.2 percent in Mississippi, while trade employment grew 19.1 percent nationwide, but only 13.8 percent in the state.

Mississippi's trade and service sectors are weak because low-wage, less sophisticated manufacturing and agribusinesses (often owned by outsiders) don't demand many supporting services from the local economy, nor pay Mississippians enough money to support big retail trade or services sectors. Even more important, many of our manufacturing businesses are branch plants, lured here by our recruitment programs over the years, and they don't buy materials and services within the state the way in-state businesses do. Instead, decisions about business services, finance, insurance, and raw materials are made at corporate headquarters elsewhere in the country and provided by suppliers elsewhere in the country.

In short, we are living on borrowed time. While Mississippi faces the end of the century in better economic health than when it began, the strategy that brought us here is no longer acceptable. We have overlooked the consequences of not investing in people, our business infrastructure, and the quality and amenities of our communities. Consequently poverty, unemployment, and an underskilled workforce are still with us, and too many parts of our state suffer stagnation and out-migration of our people.

To change this situation we can't rely on the techniques we used 50 years ago — we cannot completely "recruit" our way out of this bind. First, we do not have the highly skilled workers globally competitive companies need. Second, we do not have the state-of-the-art business services "infrastructure" that competitive companies look for to do business in the global economy. Third, we don't have yet the community infrastructure and amenities demanded by competitive firms — good schools, housing, racial harmony, health services, cultural diversions, water, sewage, and transportation systems, efficient government, and more. We are getting closer and we are filling some of these gaps, but we must move faster and more dramatically.

Finally, we can't recruit our way into a bright tomorrow because we simply cannot afford it. It is estimated that it cost Kentucky some $50,000 per job to recruit its new Toyota plant. If Mississippi were to try to recruit new plants to replace, for example, just our apparel jobs, it would take 18 such plants at a total cost of some $1.8 billion. And even if we spent that money, we still would be no closer to gaining control over our own economic destiny — we would simply have put our future, once again, into someone else's hands.

There is an alternative, however: the creation of a vibrant economy built upon a foundation of competitive businesses already located within Mississippi — Mississippi-owned businesses and progressive branch plants that combine our great resources with state-of the art technology and training to produce world-class products and services. We can build on the industries of the past the successful industries of the future, wood products, food services, communications gear, chemicals, high technology metalwork and motors, and many, many more — by developing our people, our communities and our competitive businesses. There is evidence that this foundation is already being laid.

A NEW ECONOMY EMERGES

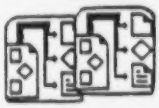
> **"We can no longer afford to leave our economic destiny in the hands of others."**
>
> **Natchez business owner, 1989**

Although the recent performance of Mississippi's economy seems sluggish, that overall picture disguises the fact that there are businesses being born, expanding, contracting, and dying in every one of our industrial sectors every day. *A closer look at which businesses are growing reveals that a new economy is emerging in Mississippi — an economy driven not by the big assembly-line factories of our past, but leaner, more specialized, and often smaller businesses, an economy driven not by low-skills and low wages, but by high skill and higher wages.*

Between 1980 and 1987, more Mississippi businesses were born or expanded than contracted or died. In manufacturing, the number of companies paying higher than

Markets have changed — international, quickly changing, competitive.

Products have changed — high quality, specialized.



Production processes have changed — sophisticated technology, precise, flexible.

Businesses have changed — decentralized, flexible, leaner.

Workers have changed — highly skilled, adaptable, responsible for decisions.

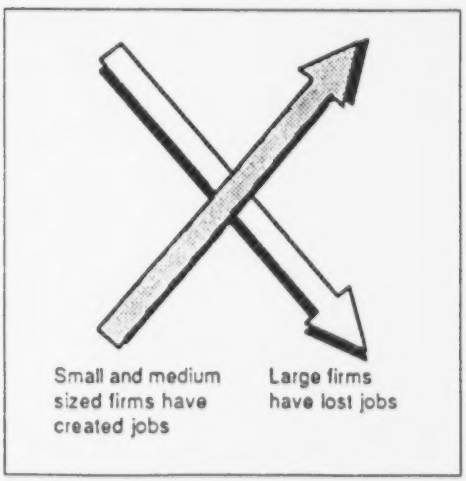
average wages is growing a little faster than those paying average or below-average wages. That's good news. But there is an even more revealing story: *to the extent that Mississippi has grown at all during the 1980's, it has grown because of the success of our small and medium size businesses.*

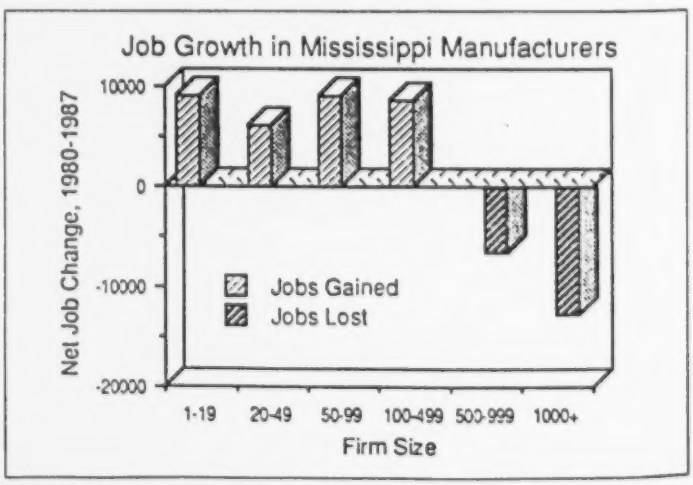
In manufacturing during this period, the most important net new job creators have been small and medium size companies employing between 20 and 249 workers.

These medium size companies grew whether the economy was strong or weak. So, these medium size companies are both the largest source of new manufacturing jobs and the most stable source of jobs. All total, these companies added approximately 22,000 jobs while companies employing 500 and above, lost approximately 19,000 jobs during this period.

We also see new opportunities in agriculture. While it is unrealistic to expect all farm products to be completely processed in Mississippi, there are tremendous opportunities for highly profitable value-added production of agricultural products.

Growing Mississippi companies are demanding more of their workforce and their communities than ever before. They want their communities to provide good health care services, a clean environment, decent housing, and strong schools. The skills they want their workers to master aren't





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simple routine tasks; rather they are tasks like statistical process control and advanced blueprint reading, solid communication skills, teamwork, problem solving ability and leadership. In short, they need their new workers coming out of school and their current workers to be able to think, work, and learn for themselves a complex variety of tasks.

BARRIERS IN THE ROAD TO THE FUTURE

> "Even now, we'll work like hell to get a Japanese plant, but we won't help the businesses here."
>
> **Jackson businessman, 1989**

Despite this positive evidence of business dynamism, there are trouble signs, and factors holding back Mississippi's march into the global economy. Even in manufacturing, where small and medium size businesses have expanded more than large businesses, our new businesses are growing slower than all but eight other states.

What's holding them back? Part of the answer lies in these businesses themselves; small and medium sized companies are often unable to gain access to the financing, technology, research and marketing assistance they need to grow and compete. Also, Mississippi businesses are crying out for skilled workers as they upgrade their production systems and introduce new technologies — fully 70% of Mississippi companies say they can't get the skilled help they need in key occupations.

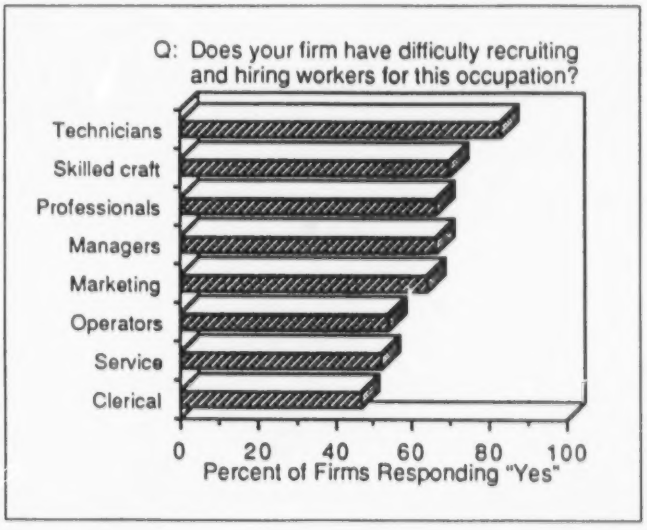
Not only are Mississippi workers not available with needed skills, but those we educate and train in our schools and companies often leave for greener pastures.

As disturbing, our new growth is not evenly distributed. Rural communities are not improving fast enough because continuing declines in agriculture are not being offset by emerging new businesses in or near those communities. Even more troubling, the income and opportunity gap between white and black Mississippians is widening, the product both of persistent poverty and persistent prejudice.

These barriers are the price we pay today for creating short term economic opportunity in the past at the expense of needed long-term investments in our own future. An economy based for generations on low wage labor provides few incentives for young people — black or white, rural or urban — to pursue education and few rewards for adults who acquire new skills. An economy that depends on maintaining the lowest cost business climate in the nation provides little in the way of revenue to permit communities to provide basic services — schools, roads and bridges, water and sewer systems, health and housing services, recreation and culture. And an economy that has suffered years of underinvestment cannot provide the basic services modern, competitive businesses need most.

The education reforms that began in 1982 and the four lane highway program approved in 1987 are significant investments that will help improve our economy. But these are only the beginning of the investment strategy that the state must pursue.

Only a healthy, independent and well-trained population can support the type of high growth and high value-added industries that the state needs to attract and stimulate to increase our standard of living. The fact is that Mississippi currently has the highest level of economic dependency in the nation. This is a waste of human potential and of the limited resources of the state.



A prospective worker should, at a minimum, be able to read and write. But in this regard, Mississippi has a problem. One of every four prospective workers here over the age of 25 is functionally illiterate. As a result, investments must be made to improve the performance of the public schools and to improve the basic skills of the current workforce. Only through solid and equitable education will our entire workforce become the asset we need.

Investments must also be made to reduce the economic dependency of so many of our citizens. Even with low benefits and high federal participation in programs, the cost of supporting a large number of dependent persons through welfare and medical care programs places severe strains on limited health care and other service delivery systems. This makes the task of upgrading education and skill levels very difficult. Efforts to reduce dependency on the state have a direct and significant effect on businesses and economic development, both by upgrading the skills and health of the labor force and by lowering government costs.

The Choice: Lead or Follow

Global competition isn't something that just affects multinational corporations like Ford or IBM, it affects all of us — every individual, community, and business in every corner of Mississippi. Often, we feel the impact of global competition indirectly — when Mississippians without high school diplomas discover there are fewer jobs open to them, or when communities trying to recruit new industry are told they lack the school system competitive companies demand today.

Until recently, Mississippi, along with much of the rest of the South, has been able to duck the competitiveness challenge, taking shelter behind low wages and antiquated production systems that kept the prices of the things we made low enough to get by. But that strategy doesn't work anymore.

"If you don't think globally, you deserve to be unemployed...and you will be."

Peter Drucker,
International Business Expert

"Low-wage companies no longer are confined to looking at states like Mississippi for a new home. They can look to Mexico, Malaysia, and Taiwan, where most people will always work for lower wages than Americans...the only way America's states can survive with a low-wage strategy is to embrace the living standards of Third World countries. That is precisely the standard from which Mississippi is trying to break loose...successful strategy hinges on a well educated work force capable of adapting to high-technology manufacturing, good transportation, and affordable, available capital."

Editorial, Northeast Mississippi Daily Journal
September 7, 1989

Mississippians — individuals, businesses, communities — must make a choice. But the choice is not whether to participate in the new global economy. That decision already has been made for us; we cannot turn back the clock. Mississippi businesses may choose not to export, but they cannot avoid international competition. Our competitors have not just flooded local markets with their products and services, they have become our neighbors. *Between 1979 and 1986, there were nearly 90 foreign-owned new plants established or expanded in the South — nearly 30 percent more than any other region in the country. In short, companies that cannot compete in international markets will be unable to compete in domestic markets.* The same reality faces individuals and communities in Mississippi: people who lack the skills and communities that lack the services demanded by competitive companies will be left behind.

Mississippi's choice is simple and stark:

Stay where we are or join the ranks of the prosperous global competitors.

It is a genuine choice, but not an easy one. After years of chronic underinvestment, we are beginning to move forward — educating our children better, training our workers, modernizing our companies, fixing up our communities. But we must double our efforts at improvement, for the world is moving fast as well. To join the ranks of prosperous economies will take extraordinarily hard work on the part of every individual, business, and community in Mississippi — a

commitment to ourselves and to each other to make the long-overdue investments needed to vault Mississippi to the front ranks of the nation's and the world's economies.

In this plan you'll meet some of these competitive people, communities, and companies in Mississippi. But there are many more businesses, communities, and individuals who have not begun to move, who are waiting for someone else to step in and save the day. *If Mississippi is to have a bright future, we must create that future for ourselves — every individual, every business, every community.*

Mississippi's greatest economic asset is its people. Throughout our history, employers have been able to rely on eager, hard-working Mississippians to get the job done.

But the job has changed, and hard work isn't enough. The new economy emerging today in Mississippi demands workers who are well-educated, highly skilled, technically literate, willing and able to adapt, and capable of working in problem-solving teams, and demands the investments that will give our workers these skills. For workers who have these skills, the new economy offers unparalleled opportunities. For workers who don't, the new economy offers dwindling prospects. Economies that can meet these skill requirements will grow, attracting new industry and spawning new businesses of their own. States that cannot meet these requirements will stagnate and decline.

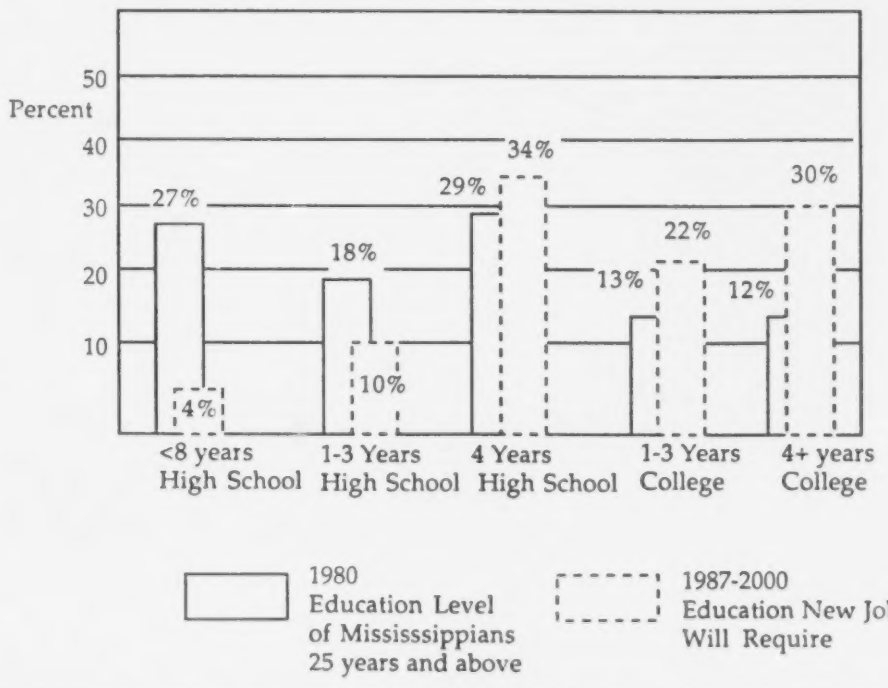
Status Report:

There is a profound mismatch in Mississippi today between the increasing skill requirements of jobs and the decreasing skill levels of future workers. Over half of tomorrow's jobs will require some college-level skills, but nearly half of Mississippi's current work force does not even have a high school education.

"The returns to those who invest in education beyond high school are the highest of the post war period. Over a lifetime of employment, a worker with post-secondary education today can expect to earn nearly $550,000 more than a high school grad."

"How American Can Triumph,"
***Fortune*, December 18, 1989**

Mississippi Workforce Education is Below What's Needed for New Jobs



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More than a quarter of all adults in Mississippi are functionally illiterate. Nearly 70 percent of Mississippi's employers report they can't find the help they need in key skilled occupations.

The future is even more troubling: more than a third of all 9th graders fail to complete high school and, because they are unskilled, fail to find work. Youth unemployment in Mississippi is 32 percent and between 50 and 60 percent among black teenagers. At the same time, teen births are higher in Mississippi than anywhere else in the country, and rising. Partly because of this, 4 out of 10 babies are born into poverty — twice as many as the national average. Without adequate pre-natal care, birth weights are low and infant mortality is high. Those infants who survive enter childhood and school at a significant disadvantage and stand an even greater chance of failing or dropping out.

These statistics are statewide averages; there are huge regional and community disparities in income, youth and adult unemployment, education levels, health and housing inadequacy, and related issues. Moreover, while women and minorities have been responsible for most of the recent growth in Mississippi's work force and will make up a much greater share of our future work force than they do today, they also bear a much higher burden of disadvantage in all of these areas.

As poor as this overall picture seems, there are exceptional and successful human investment programs underway throughout the state, including literacy programs in Columbus and Oktibbeha County, among others; the Teen Learning Center in Meridian; Tupelo's employer-guided technical education program; Gulfport's JTPA-funded computer-based remedial education program for young people; the Hazelhurst school district's adult education and drop-out education program, with day-care for young mothers; and many others. These efforts and others like them, are bright beacons of progress for the most part still hidden under a bushel. Mississippi's people, fueled by the caring and energy of hundreds of individuals around the state, are moving forward.

Mississippi is not without resources to invest in its people; programs exist at every level. But the system is characterized by warring bureaucracies and jurisdictions, and inadequate attention to performance outcomes and accountability. The result is ineffectiveness and drift in the midst of desperate need. We are spending a fortune to "fix" problems that smaller front-end investments could eliminate altogether: it will cost the state an estimated $280 million per year to care for teenage mothers and their babies. A modest statewide commitment to preventing teen pregnancies could eliminate much of the need in advance.

If Mississippi is to join the ranks of the most successful economies, it cannot afford waste and it cannot afford to leave anyone behind. And unless we work harder at reversing decades of underinvestment in our human resources, we will fail to achieve our goal. As we have already experienced, without healthy, well-educated people, communities will languish and businesses will decline — or move elsewhere.

The Strategy: Life-Long Learning And Long-Term Human Investments

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Of all of the legacies of our past, the underinvestment in people that resulted from our reliance upon low wage industries for jobs and growth is perhaps the most crippling. In order to upgrade our existing businesses, or attract state-of-the-art new businesses, we need to produce and encourage skilled workers. Our current education and training system is not producing them. For example, despite the fact that 55 percent of our future work force is already working today, only 3 percent of our entire education and training budget goes to programs for adults.

Mississippi needs to make a commitment to its people — a commitment to a system of life-long learning opportunities and coherent, long-term investments in human resources. In turn, Mississippians need to make a commitment to themselves — to pursue education and skill development persistently, throughout life, to secure the opportunities and obtain the benefits presented by our new economy.

The Mississippi commitment has to start within each of us, within every family — we must commit to work hard and give something back to society. We must help our children develop the discipline and perseverance to make something of

themselves. We must reach out to those without a strong family to depend on and help build their own personal strength.

As with business development, success will depend on initiatives created by and led by our communities, where local needs and resources can be brought together most efficiently. State programs and assistance may serve as catalysts, but the impetus for change, ultimately, must come from Mississippians themselves, through improving themselves and helping their neighbors do the same.

The state's part of the bargin must include:

1. Pursue education reform as it helps us reach clear goals of better prepared citizens for life and work.

The current education reform proposals, will carry Mississippi further towards its goal of a world class education system, and support of learning from cradle to grave. The investments in the workers of today and tommorrow are essential: The Southern Growth Policies Board recently concluded that the single most powerful predictor of economic growth is the level of education and human resource development in an area. It will take years for this investment to pay off — but if we do only one thing to foster economic development throughout Mississippi and for all its citizens, it will be to develop further an effective system for lifelong education of Mississippi's citizens.

Diane Martin of Greenville was doing the best she could teaching her young pre-school son Brian on her own, when a representative from the HIPPY family literacy program knocked on her door. Divorced, unemployed and on welfare, with two older children in addition to 4 year old Brian, Diane wanted to give her child the best start towards school. "I was teaching him the ABC's" and counting, but my mind didn't take me much farther." Enrolling herself and Brian in HIPPY, Diane attended group meetings where she learned additional home instruction techniques. Afterwards she and Brian spent at least 15 minutes a day together, doing learning exercises, manipulating colors, shapes, drawing, writing, learning how to learn together. Sometimes Diane's 8 year old daughter Jermaine joined in. With HIPPY, both Diane and her children have something that can take them further than they could get on their own. This year Brian started kindergarten; "where he is doing great — bringing home certificates for advanced performance" according to Diane. And Diane has started to work for HIPPY, recruiting other young mothers into the program. For Diane and her family — HIPPY helped them draw closer, and become involved in life again.

In the meantime, there are urgent actions needed that will have rapid, measurable results:

2. Establish a public/private Human Capital Strategy Board to rationalize the existing mishmash of state, regional, local, and private human resource investments.

It's time to end the chaos in our current expenditures for education, training, literacy, health, and related services and to begin setting the standards of global competitiveness. A Human Capital Strategy Board, composed of private industry leaders as well as public officials, should be established to:

- Integrate existing state and federal programs and dollars into a coherent human investment system;

- Help the Governor and Legislature set priorities for state human investments;

- Develop a common intake form and assessment tool for determining the work-readiness and education and training needs of participants in publicly-funded education and training programs;

- Establish a mechanism for ensuring that employers have the lead role in defining the content of training programs;

- Establish outcome standards for all education and training programs, monitor attainment of these outcomes in all programs, publish results for consumers of these programs, and make continued funding contingent upon outcome attainment;

- Ensure that all programs have both the flexibility and responsibility to be consumer-driven — that

is, based upon the needs of the individuals participating, not upon mandates or "eligibility requirements;" and

• End the educational and skill gulfs that still divide black and white, and urban and rural Mississippians.

3. Inaugurate, with private industry, a major new Work-place Learning Campaign.

The core recommendation of our Competitive Businesses strategy, comprehensive industrial modernization, cannot succeed without a companion initiative aimed at upgrading the skills of Mississippi's work force. A number of Mississippi firms have already learned that training and education programs work best when they are delivered in the work-place. The principle beneficiary of this initiative is Mississippi's business sector and they should define the content of needed programs and underwrite their cost, as needed. But the state has a significant interest in the success of the initiative and should:

• Recruit 600 companies employing 20 workers or more each year for the next ten years to participate in the Campaign, targeting strategic manufacturing and service industries;

• Aggressively market the 25 percent basic skills tax credit toward the cost of such work-place training and education programs;

• Field "industry response teams" composed of community college, MESC, PLD's, DECD, GED coordinators, industrial trainers, and local chambers of commerce, to help employers assess their work force education and training needs and design appropriate programs;

• Certify (through Human Capital Strategy Board outcome measures) participants in work-place training so their credentials are recognized and "portable;"

• Encourage employers to condition continued employment on meeting jointly arrived at skill and education levels; and

• Provide for the creation of "training consortia" among small firms in the same or related industries clustered in regions within the state that might be too small for on-site training programs.

Two years ago **Baldor Electric**, a Mississippi maker of industrial motors, began to revamp their production system in the face of stiff foreign and domestic competition. According to Mike Smith, production manager, as they began to teach their 300 workers advanced statistical process controls and quality improvement process concepts, they noticed: "light-bulbs just weren't going off the way they should." When they began testing workers for basic workplace literacy they detected a huge problem — right away many of their workers could not read, do the math, nor master other skills necessary to use their new production technology.

Baldor's response was to make a commitment to their workers to help them get up to speed. They built a classroom into the plant, bought computer equipment, arranged for special tutoring, and developed both basic literacy programs and a new 10 week orientation program in the new skills and team concept needed to compete. Baldor's workers responded by signing up for hours of class time after work. Even 40 and 50 year old workers — who thought themselves "too old" to change — began to catch the bug and join the classes. The new team spirit has become infectious.

As **Mike Smith** puts it — "We did this mainly for our people, there is nothing more moving than seeing someone with a tear in their eye because they can now read to their kids. But for Baldor our goal was quality, and to get quality today you need education." Baldor has seen quality measures go up and defective production work go down — that's the bottom line. And it leads its sister plants in other states in developing the quality program.

4. Establish a "JOBSkills" program of cooperative education between employers and schools.

Despite concerted effort to reform the secondary vo-tech system, employers still view the programs as irrelevant and their graduates as inadequately prepared for the world of work. Experiments elsewhere in the United States and long-standing mainstream programs in Europe have proven that secondary school

programs that incorporate work experience and work-relevant coursework provide more students with more avenues to careers, reduce dropouts, and significantly improve the calibre of the work force. JOBSkills would be available to students in grades 10-12. Under the program (which would be a demonstration program initially):

- Students and employers would sign contracts for part-time, graded work experience;

- Entry would be competitive, giving employers the opportunity to select candidates based upon aptitude, interest, and previous school performance;

- Schools would be responsible for assuring complimentary work-relevant coursework in school and for guidance, screening, testing, etc.; and

- Employers would be responsible for supervised work, mentoring, performance assessment, and paying a sub-minimum training wage.

5. Ensure that basic human investments are made to guarantee that all Mississippians have an equal opportunity to succeed in the new economy.

A range of human investment programs, not normally associated with economic development, are in fact central to the achievement of our goal of a rising standard of living for all Mississippians. To meet basic human needs and help all citizens prepare for a productive life, Mississippi should:

- Continue expanding and funding for pre-natal and peri-natal care for all Mississippi mothers and infants at risk;

- Expand the School Health Nurse Program statewide and encourage close cooperation between the community, schools, and health clinics to stem teen pregnancy and drug abuse;

- Pursue welfare reform initiatives providing day-care, transportation, and training for mothers to enable them to escape dependency through employment or self-employment;

- Continue developing affordable day-care programs and encourage private day-care partnerships and company-sponsored day-care programs for employees;

- Mount an aggressive, public, child support enforcement program and institute a mandatory wage-withholding system for delinquent parents;

- Engage young people in our communities in Community Service Corps, peer counseling programs and leadership development activities, and enterprise development initiatives, as a way to build self-esteem, contribute to the community, and bring black and white young people together;

- Provide accessible and affordable health care for all Mississippians, and encourage employers to provide health insurance. Seek ways of insuring the uninsured and underinsured, and develop alternatives for elder and indigent care; and

- Upgrade substandard housing and pursue the recommendations of the Housing Task Force through innovative community initiatives.

Beta II, a Marks, Mississippi, maker of electronic auto parts recently got a message from one of its chief customers, the Ford Motor Company: "Get your product up to Quality One or we won't buy from you anymore; you're competing with suppliers from all over the globe and you've got to be better than any of them." Beta II scrambled, retooling production systems and retraining its 140 workers in statistical process control, shop math, blueprint reading, and communication and management skills. They made the Q1 rating after a Ford inspection, but Ford wanted more: a plan for continuous improvement and training before they were deemed "Q1". With help from the state and their local community college, they are meeting that demand, too. Says George Person, Beta II's Plant Manager: "We are in a gang war with companies around the globe — and we are going to beat 'em."

Government doesn't necessarily create economic development, businesses do. They do it by creating products and services that customers want or that they value more highly than those created by someone else. The more successful businesses are at doing this, the more jobs are created and the more wealth is generated.

From the state's point of view, the purpose of "economic development" is to assure every citizen an opportunity to achieve a better life. It isn't enough, therefore, for people simply to have jobs; they have to have good jobs — jobs that pay good wages, are reasonably stable, and offer them a future. Mississippi has come a long way from the dirt-poor agrarian economy we had half a century ago. We are a manufactuting and services industry state today. The problem is that many of the goods and services we produce today aren't in enough demand for our economy to grow as fast as the rest of the nation. We are falling behind, in effect, because we are not keeping up.

"U.S. companies spend two-thirds of their R & D budgets on new products and processes. Their Japanese counterparts spend two-thirds of their R & D on the scores of small refinements that can improve manufacturing quality and efficiency. The resulting well-honed skills also help them get new products to market faster and with few glitches."

"How America Can Triumph,"
***Fortune*, December 18, 1989**

If everyone in Mississippi who was eligible to work had a job today at Mississippi's prevailing wage, we would still have the lowest per capita income in the nation. By and large, our low per capita income isn't because Mississippi employers pay unfair wages, it's because the things we produce aren't valued highly enough by consumers in the marketplace to warrant higher wages. The quality isn't good enough, or the product isn't special enough, or the service isn't needed enough. And so we only get by when we should be getting ahead.

Because we have a "branch plant economy" — one dominated by factories owned by outside corporations — Mississippi has less ability to influence the research and development, capital investment, product development, or marketing decisions of companies controlled by distant corporate executives than if those decisions were made here in the state. And even if we could influence those decisions — and thereby increase the quality and competitiveness of the plants in our state — many of the benefits would accrue elsewhere, not here in Mississippi. We can and should encourage our branch plants to upgrade their production technologies and improve their products, and applaud those who do. But for the most part, they are not our best hope for increasing economic development.

The state's prime economic development audience is the small and medium size businesses headquartered here in the state. These businesses — which are the primary source of new jobs — want to stay in the state, want to grow in the state, and depend more on the finance, technology, infrastructure, and human resource policies of the state than do large branch plants.

And what many of these businesses have told us is that they are struggling: they can't get the right kind of financing, especially risk and working capital, they need to start up or expand. They can't afford to develop or gain access to the technologies they know they must have to remain competitive. They don't have access to information about emerging markets elsewhere in the nation or the rest of the world where they might sell their products and services. They need better training in advanced management practices and production techniques. They can't find workers, technicians, or managers with the qualifications they require. They even have trouble getting information on the business assistance programs the state already has created to help them.

These problems plague all of our in-state businesses, but they are even more pressing for our minority-owned businesses, who continue to be subtly but systematically excluded from opportunities and resources available to other businesses.

The fastest, and ultimately most lasting, way Mississippi can achieve its goal of a rising standard of living and greater control over its own economic destiny is to help existing Mississippi-based businesses become world-class competitors and encourage those Mississippians who want to create their own small businesses to take that step toward economic independence.

The Strategy: A Commitment To Modernizing Our Businesses And Our Business Environment

Once again, moving ahead will require a new approach to economic development. We have the raw materials from which to fashion our future — Mississippi-based manufacturers, agribusinesses, and service firms, that want to grow, workers who want to work, business service companies that want to serve, and entrepreneurs with the energy to turn their dreams into reality.

What we have lacked until now is a systematic way of helping our own businesses help themselves. We need a way for our relatively small companies to gain access to the resources and information they need to become globally-competitive. These companies are dispersed throughout a rural state, and with weak connections between producers and suppliers and limited access to market information and new technologies. As initial steps to a systematic approach, Mississippi should:

1. Challenge private industry to mount a Global Competitiveness Initiative that will dramatically upgrade Mississippi's manufacturing base.

There are businesses in Mississippi that are operating at global standards; the problem is these "best practices" are not yet common practice. Consequently, the core recommendation in the strategy for creating competitive businesses is *to engage 70 percent of Mississippi-based manufacturing firms in a modernization program during the next five years that will help them meet or exceed global standards in technology, product quality, management practice, production flexibility, work force skill levels, and new market development.* This modernization program should be part of a larger Global Competitiveness Initiative led by our business sector but assisted by the state. The initiative should:

- Educate employers about what global competitiveness means for their particular business;

- Establish a Global Markets and Technology Observatory to collect and make available to manufacturers information about market and technology trends;

- Make available to Mississippi manufacturers leading experts on modernization in their specific industries;

- Establish more broadly workplace learning and skill development programs, using available tax credits and both public and private training services, to meet employers' labor force skill needs;

- Create an industrial extension service that would expand upon existing sources of technology expertise and make their services accessible to industry through a

network of field offices.

- Establish a mechanism for monitoring the achievement of global standards and the performance of the state's major industrial sectors on a continuing basis; and

- Establish an annual award recognizing the Mississippi firms that have shown the greatest progress in meeting or exceeding global production standards.

B. C. Rogers Poultry Company may not sound world class, but don't be fooled, this employer of 2200 Mississippi workers has become successful by carefully choosing its market niches and deploying advanced technology. Several years ago Rogers made a decision to target a specific niche in the growing poultry market — as a wholesale supplier to the food service industry including McDonald's and Pancake House. Rogers has developed the means to grow chickens specifically tailored for de-boning, and to deliver higher value-added prepared poultry products such as ready to use deboned pieces, marinated chicken breasts and the like. Innovations to meet the changing and more specialized market demands of American consumers has made B. C. Rogers one of the most profitable poultry producers in the nation.

2. Begin establishing "flexible manufacturing networks" among small and medium size firms.

The competitive limitations caused by the structure of Mississippi's manufacturing sector — composed of small and medium size companies dispersed throughout the state — can be converted into assets through the creation of networks designed to help small firms achieve economies of scale while preserving the flexibility afforded by their small size. *Companies in the same industry, or producing components of larger manufactured products can, through networks, develop or pool the technological improvements, management skills, market development information, and training services that they would have been unable to afford individually, as well as develop new producer-supplier linkages.* To spur the development of these networks, the state and communities should:

- Identify industry clusters where networks might best achieve the modernization levels required for global competitiveness;

- Provide challenge grants to industry associations, economic development organizations, and educational institutions, among others, to encourage them to establish such networks;

- Provide training and technical support as these networks organize and begin operating; and

- Provide matching grants for specific network projects (e.g. technology development, market analysis, etc.), while requiring explicit buy-in investments on the part of participating firms.

3. Strengthen linkages between Mississippi's service industries and its other industrial sectors.

Because so many of the purchasing decisions in our branch plant economy are made elsewhere, and our historically low-tech economy hasn't produced a diverse professional class, Mississippi's service industries, and especially its business services (insurance, finance, accounting, legal, marketing and advertising, etc.) are chronically underdeveloped. As we work to strengthen the goods-producing industries in our economy, we must work to strengthen the businesses that could serve these industries. Accordingly, the state should:

- Develop a computerized data base on Mississippi service businesses that can be used to match producers with suppliers;

- Convene a task force of service firm leaders to develop an analysis of common needs and market opportunities;

- Ensure that opportunities to obtain the scale benefits of networking are made available to service sector industries as well as manufacturers; and

- Encourage acceleration of the development of telecommunications infrastructure throughout the state, upon which many advanced service industries depend.

4. Build the base of Mississippi entrepreneurs.

The more Mississippians start their own businesses, the more control Mississippi will have over its economic future. Already, new small businesses are one of the major sources of new jobs in our economy, and while failure rates

are often relatively high, twice as many jobs are being created by small firms as are being lost due to their failure. To increase the rate at which new businesses are formed and, more important, to increase the growth rates of those that have already been formed, the state should:

• Encourage the development of public and private risk capital funds by, among other measures, participating (with private investors) in the capitalization of a fund to commercialize new technologies developed within the state, assisting in the creation of one or more microenterprise loan funds aimed particularly at minority and rural entrepreneurs.

• Provide self-employment and entrepreneurship training to Mississippi residents, including specific programs to use JTPA and unemployment insurance funds to train unemployed or dislocated workers; school-based entrepreneurship education; and college and community college courses;

• Support local initiatives to foster entrepreneurship through local business incubators and community development organizations; and

• Establish an annual award to recognize "entrepreneurs of the year" and publicize home-grown business success.

5. Fill gaps in Mississippi's business financing system.

Mississippi's financial institutions have the capacity to meet the capital needs of the state's businesses but in some areas fail to do so. Capital is available for larger, more established firms (which have been losing jobs during the last ten years), but not for the small and medium size firms that have been the major job generators in the state's economy. It is much easier for a millionnaire to get a loan for an extra $1 million than it is for an entrepreneur to get a start-up loan for $5,000. *Compared to other states, Mississippi banks engage in low levels of commercial and industrial lending, require higher than average levels of collateral and equity, avoid working capital financing, and offer little or no risk capital — all to the detriment of the smaller Mississippi-based businesses that offer the greatest potential for growth.* The state, for its part, offers a range of tools for fixed-asset financing but, like the private sector, is weak in the area of working capital for small and medium size businesses. Moreover, these state programs are poorly marketed to the private sector. The new seed capital fund may help fill the gap in risk financing, but will need to be supplemented if more of the capital needs of our entrepreneurs are to be met here in Mississippi. To strengthen Mississippi's capital markets, the state should focus on improving the functioning of private capital markets, rather than intervening with scarce public funds, and should:

• Establish a Mississippi Development Finance Council composed of public and private finance leaders to rationalize existing capital services and help private financial institutions adopt state-of-the-art development finance techniques, particularly in the area of working capital and risk capital;

• Establish a Small Business Expansion and Modernization Fund, jointly managed by bankers and public development officials and linked to the modernization initiative, that would provide for risk pooling among many banks; risk sharing by the state through direct investment, guarantees, or insurance; and decentralized delivery of services to meet regional variations throughout the state;

• Earmark a percentage of the Seed Capital Fund for co-investments with local investment groups providing small-scale financing for startup businesses — financing that otherwise would be too small for the Fund to address itself;

• Encourage the establishment of local and regional bank-sponsored development corporations and risk capital funds to support the strategy emphasizing community-based development initiatives;

• Unify the management and marketing of existing state, regional and community-based business financing programs and link them more closely to the rest of the state's business development initiatives; and

• Recognize financial institutions that establish innovative and aggressive development finance programs.

6. Strengthen support for minority enterprise development.

Efforts to increase minority enterprise development in Mississippi are not succeeding. While black Mississippians comprise 35 percent

of our population, they owned only 13.8 percent of the businesses in the state in 1982 and generated only one half of one percent of all business sales in the state. This represents not just an historical lack of capital resources and business experience within the black community, but the persistence of barriers to the acquisition of these resources from the white community. The inequity inherent in the state of black enterprise in Mississippi notwithstanding, a compelling economic fact of life remains: Mississippi cannot move into the front ranks of the global economy with its black population significantly exluded from the opportunities of enterprise creation. We must improve if we are all to prosper. The state should:

- Set a goal of achieving parity in business formation rates, total sales, and sales growth between Mississippi's minority and majority-owned businesses;

- Increase the availability of comprehensive management training and technical assistance for minority-owned firms;

- Ensure that existing economic development and business assistance programs are accessible to, marketed to, and serve the needs of minority-owned firms;

- Convene a task force of minority-owned firms to identify and recommend action to remove barriers to minority businesses; and

- Increase the availability of seed and equity capital for minority-owned enterprises through tax incentive financing, creation of private sector intermediary financial institutions (including community development corporations and business and industrial development corporations), and greater access to conventional financial institutions.

In ten short years, the N. L. Carson's Construction firm has gone from a one-man operation with a pick-up truck to the co-winner of the U. S. Small Business Administration's minority contractor of the year, making over $9 million dollars in 1985, and $6 million a year since. When Mr. Carson talks about what has made him so successful he spends much of his time focusing on his workers. Carson has a "home-grown" crew, training them in-house and expecting a long-term commitment from them in return. Carson calls his team of workers his "key asset." When Carson first tried to start his own firm he had the experience and track record of performance, but could not get the financing. With persistance and help from the SBA contracting program he got started — and has been rolling ever since. Still, he sees other minority entrepreneurs facing similar hurdles — the start-up financing they need is hard to get.

Our communities define us as surely as do our families. People don't come "from Mississippi," they come from individual communities — big and small, urban and rural — in distinct regions throughout our state. Where we come from is part of who we are and affects what we may become.

In the same way, communities determine much about how our economy will grow. In the past, industry in Mississippi often wanted little more of communities than low taxes and very little regulation. *But the businesses driving the new economy emerging in Mississippi today are more demanding. They want educated and skilled workers; good schools for the children of their employees; honest and efficient local government, good housing and efficient water, sewer, and solid waste facilities; clean, safe streets; cultural and recreational amenities; and racial harmony. Communities that can offer these services will grow. Those that cannot will decline. It's that simple.*

Status Report:

Generations of underinvestment have left most Mississippi communities poorly prepared to accommodate or plan for the needs of the businesses emerging in Mississippi's new economy. While Mississippi has become a national leader in education reform, the state has an enormous amount of lost ground to make up. Thirty-five percent of our young people still drop-out of school. Only half of our adult workers have a high school education. Consequently they can often not perform basic tasks in the new workplace. Too many of our teenagers get pregnant. Up to 45% of rural housing and 26% of owner occupied housing is substandard. Too many of our towns' main streets are boarded up. Too many of our babies still don't get the health attention they need.

In almost every category of public works spending, Mississippi communities spend less than communities elsewhere in the South or the nation as a whole. While we have many water systems, many of these systems are not being adequately maintained and many are reaching the end of their useful lives. Too many towns in the state are not in compliance with EPA wastewater standards, have no plans underway to upgrade, and have no resources to upgrade even if they had plans. Legal landfills in the state have only an estimated six years left before they reach capacity and solid waste is accumulating rapidly in illegal dumps. Mississippi has no treatment facility for hazardous and toxic wastes and is one of the largest exporters of these wastes in the nation. Roads and bridges in the state will soon require major repairs and while the legislature recently approved far-ranging improvement investments for major arterials, many secondary roads and more than half of all county and local bridges are deficient.

All these needs are community concerns throughout Mississippi — economic growth won't come without making priorities in each community and addressing them — and as we grow we will be better and better equipped to meet these challenges. *Much needs to be done at once, and the place for each of us to start is in our own backyard. There are communities that are struggling to patch together aggressive, far-sighted local economic development plans — plans that intergrate infrastructure and education and health improvements — and set goals and priorities among them.* The Department of Economic and Community Development, community colleges, local chambers of commerce, private companies, and the 10 planning and development districts, have already begun helping communities gain access to information, technical assistance, and financial assistance, among other resources.

But many more communities are doing nothing. Some are simply waiting for the state or someone else to deliver a solution, in the form of a new factory. Many others

simply lack the capacity to put together a workable strategy — especially our most rural communities. The missing ingredients are leadership, direction, and "critical mass" — sufficient local resources to make needed investments and develop workable development strategies.

Indeed, in all but the largest of Mississippi's communities, the lack of "critical mass" — the combination of leadership, funding, and public and private institutions capable of helping develop growth programs — is the single largest barrier to competitiveness, and is the lasting legacy of decades of economic decisions made by others.

The Strategy: A Commitment To Community-Based Economic Development

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Mississippi's communities can become economically vital and competitive only through their own efforts. There will be no massive infusions of state or federal assistance, no sudden appearance of dozens of major new industrial facilities to create opportunity when none now exists.

Accordingly, the state's fundamental strategy for creating competitive communities should be to support community-based economic development. Local initiatives to analyze the community's economy and the forces affecting it are needed. Available resources to build upon assets and correct liabilities must be marshalled. Leadership necessary to turn those assets into home-grown business development and attraction strategies must be developed. The impetus for these initiatives must come from communities themselves, but the state has a responsibility to foster and support local initiatives. Not only are they the only way to generate lasting growth, but they also reduce the cost to the state and its taxpayers of supporting people and communities that are languishing.

> By now Tupelo is well-known as a bright spot in the Mississippi economy, a tribute to community planning and cooperation, and a inspiration to other Mississippi communities. The best description of what happened there comes from the Gulfport-Biloxi Sun Herald, June 24, 1989:
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> "Why have Tupelo and Lee County gone from being "no place" to the state's premier growth area in the relatively short span of four decades? The key, and its no secret is leadership. That means the people made the miracle happen. That means the people looked at themselves, honestly and clearly. They determined where they were, where they wanted to be, and what was necessary to get there. Then they did what was necessary. Leadership demanded unity and produced it. The community came together. Individuals set aside parochial considerations for the greater good. The product of that unified effort is an economy that boasts 150 plants with more than 15,000 workers...the average wage is $8.40. With that strong economic base the retail and service sectors hum right along...If the coast is to learn from the Tupelo story the lesson is in four parts: leadership, unity of purpose, diversity of industry, and excellence in education."

Community-based development can't happen without improving the capacity of local and state government to support it. A new lean, decentralized, flexible state government which views its primary role as assisting community development must be created. State government will improve its performance as it improves its capacity to provide timely, responsive assistance to community efforts. Similarly, local government must become more professional and equipped to deal with the complex challenges communities face. Jurisdictional battles and overlapping turf which impede performance at the local level must be eliminated.

Finally, no company will locate, nor will meaningful community development happen where racial divisions still exist within our home-towns. An explicit goal of community-based economic development will be to bring together blacks and whites within communities for joint action on joint needs.

To get communities moving quickly to help themselves the following strategies are suggested:

1. Make community-based economic development the explicit strategy of state economic development policy.

Just as BAWI defined one era of

economic development planning — community-based economic development can define the next. The state must commit to organize its resources and institutions to be responsive to community initiatives. It must work directly with communities to develop leadership, encourage cooperation (particularly among black and white) and provide technical assistance. State education, training, health, housing, economic development and other agencies must focus on helping communities — and cut through bureaucratic lines and turf, to do so.

2. Target state resources to communities that make an effort to help themselves.

The simple truth is that development is something people and communities do for themselves, not something that is done for them. Given chronically limited funding, the state must choose where best to invest its resources. The state should target its limited resources to communities that show commitment to long-term investments to upgrade infrastructure and other community facilities and recognize that economic development programs must integrate education, health care, and housing initiatives with efforts to foster local entrepreneurship, help existing businesses expand, and recruit new industry (where local assets make that a practical component). In short, state assistance must be contingent upon evidence of responsible local action.

3. Help the poorest and most remote communities grow through incentives for regional collaboration and resource "pooling."

In much of rural Mississippi, communities have been poor so long that they have few resources with which to overcome the neglect of the past and build the basic foundations of economic development. In such communities, regional collaboration may be both the most efficient and the only way to generate new growth. The state should commit itself to a program which provides financial and other incentives for communities to collaborate in the development and maintenance of basic public infrastructure (water supply, wastewater treatment, solid waste, recreation, and related facilities), and to pool other community resources (voluntary organizations, business groups, etc.) to plan for and create regional community and economic development initiatives.

In the spring of 1987, 47 members of the **Meridian community** representing a cross-section of area residents came together to look at the future needs of Lauderdale county. Through interviews, workshops, and community meetings the Meridian area Strategic Planning Council formulated a plan — a plan aimed at achieving the best Lauderdale county can be. The plan has real goals, real action plans, and real measures of accomplishment so the community will know when its made the grade. Most importantly the citizens of Meridian have a real commitment to make it work. Their mission: "To be a progressive area recognized for educational quality and economic opportunities; a regional service center; and a model of ethnic and racial harmony." To accomplish their mission, they developed a detailed blueprint with initiatives ranging from opening the south section of an industrial plant, to serving 600 adults with GED's, to reducing teen pregnancy by 50%, to beginning a seed capital fund of $1,000,000. Now Meridian has to get there. But that's community-based economic development!

4. Support the creation and operation of locally-based development organizations.

At the heart of most successful communities are locally-based organizations — partnerships of voluntary groups, local officials, and the business community — created to precipitate action on an issues vital to that community (such as affordable housing, literacy, health facilities, school reform, downtown renovation, new business financing, among others). These organizations are the training ground for new leaders and the proving ground for new initiatives to create local economic self-sufficiency. They constitute a significant investment by the community and offer enormous potential as catalysts of change. The state should support the formation and operation of such community-based organizations with incentive or challenge grants, matching funds for development projects, and management and technical assistance, as a core component of "helping those that

help themselves." In addition, the state should work with the private sector to establish a Community Development Foundation to provide financial and management support for the development of such organizations.

5. Support and integrate local and regional plans for environmental management and infrastructure improvements.

The cost of building new facilities and maintaining aging ones is simply too great for many of Mississippi's disadvantaged communities, both rural and urban, to bear on their own. Yet these facilities are crucial to economic development. While the state does not have all the resources to step in and fill the gap, it does have the ability to reward communities that join together to devise regional solutions for meeting these infrastructure needs, by providing planning and technical assistance and channeling financial assistance to the most innovative proposals. It also must integrate state transportation infrastructures and environmental plans into an intelligible whole. Using state resources in this way would not only be more efficient, but it would also send a clear message to other communities on what it takes to become competitive in a world of limited financial resources.

6. Reform local government practices and institutions to be more efficient and effective.

In order for Mississippi's communities to be competitive our local governments have to be competitive as well — they must be lean, professional, and efficient in helping communities develop and implement strategies for economic growth and the provision of basic services. Ways to encourage better local government include:

- Develop alternative governance structures such as city manager systems;

- Ensure that operators of public facilities, public works administrators and town engineers, state and local planning accounting, and management officials, have access to professional and technical management opportunites through a Public Service Training Institute and accessible, professional training opportunities;

- Help local communities develop up to date budgeting and accounting practices; and

- Establish incentives for flexibility and innovation in public program management and operation; such as purchasing public services from private and non-profit organizations, bidding and procurement standards that require life-cycle costing and allow for flexibility in meeting performance objectives, increased use of "user charges", and "pay-as-you-use", and tax increment financing.

In this strategic plan, the Special Task Force for Economic Development Planning has proposed both a vision of Mississippi's economic future, and concrete steps Mississippi can take towards achieving a globally competitive society. Much work remains to be done to make this vision and these steps a reality. It will take everyone working together. It is time for Mississippians to show each other and the world that we aim to be competitive.

For the Governor and the Legislature

For the Governor and the Legislature, this means adopting the strategic plan as a statement of policy for Mississippi's economic development efforts. followed by actions and investments which support and encourage the implementation of the plan.

For the Task Force

For the Task Force, this means continuing its work — communicating the plan, drafting implementation guidelines, identifying new issues and recommending further actions that we need to take in order to reach our goal.

For our People

For the people of this state, this means investing in yourself and your children through education, through workplace practices that increase your competitiveness and through support of local actions to upgrade your community.

For our Businesses

For the businesses of this state, this means commitments to upgrade the skills of your workforce through internal and external training programs, commitments to professional and civic enhancements to your community and to business practices that increase your competitiveness.

For our Communities

For the communities of this state, this means looking closely at your community and region, assessing your strengths and weaknesses, and developing your own strategic plan to coordinate the needed investments in people and infrastructure that will make your community competitive.

Mississippi, we know that an increased standard of living is within our grasp. It is time to take the initiative and seize the future.

COMPETITIVE PEOPLE

1. Pursue education reform to its fullest.

2. Establish a public/private Human Capital Strategy Board to rationalize the existing mish mash of state, regional, local, and private human resource investments.

- Integrate existing state and federal programs and dollars into a coherent human investment system
- Develop a common intake form and assessment tool for determining the work-readiness
- Ensure that employers have the lead role in defining the content of training programs
- Establish outcome standards for all education and training programs, monitor and publish attainment of these outcomes and make continued funding contingent upon outcome attainment.
- Ensure that all programs are flexible and responsible
- End the educational skill gulfs that still divide black and white, and urban and rural Mississippians

3. Inaugurate, with private industry, a major new Work-place Learning Campaign.

- Recruit 600 companies employing 20 workers or more to participate in the Campaign
- Aggressively market the 25 percent Basic Job Skills Tax Credit
- Field "industry response teams" to help employers assess their work force education and training needs and design appropriate programs
- Certify participants in work-place training so their credentials are recognized and "portable"
- Provide for the creation of "training consortia" among small firms in the same or related industries

4. Establish a "JOBSkills" program of cooperative education between employers and schools.

5. Ensure that basic human investments are made to guarantee that all Mississippians have an equal opportunity to succeed in the new economy.

- Continue expanding and funding for pre-natal and perinatal care for all Mississippi mothers and infants at risk
- Expand the School Health Nurse Program statewide
- Pursue welfare reform initiatives
- Continue developing affordable day-care programs and encourage private day-care partnerships and company-sponsored day-care programs for employees
- Mount an aggressive, public, child support enforcement program and institute a mandatory wage-withholding system for delinquent parents
- Provide accessible and affordable health care for all Mississippians
- Upgrade substandard housing and develop accessible, affordable housing for all Mississippians

COMPETITIVE BUSINESSES

1. Challenge private industry to mount a Global Competitiveness Initiative that will dramatically upgrade Mississippi's manufacturing base.

- Educate employers about global competitiveness
- Establish a Global Markets and Technology Observatory
- Provide access to experts on modernization in specific industries
- Promote the establishment of work-place learning and skill development programs

- Create an industrial extension service that would expand upon existing sources of technology expertise

- Monitor the achievement of global standards

- Annually reorganize outstanding Mississippi companies

2. Begin establishing "flexible manufacturing networks" among small and medium size firms.

- Identify and develop clusters

- Provide challenge grants

- Provide training and technical support

- Provide matching grants for specific network projects

3. Strengthen linkages between Mississippi's service industries and its other industrial sectors.

- Develop a computerized data base on Mississippi service businesses

- Convene a task force of service firm leaders to develop an analysis of common needs and market opportunities

- Encourage acceleration of the development of telecommunications infrastructure

4. Build the base of Mississippi entrepreneurs.

- Encourage the development of public and private risk capital funds

- Provide self-employment and entrepreneurship training to Mississippi residents

- Support local initiatives to foster entrepreneurship

- Annually recognize outstanding entrepreneurs

5. Fill gaps in Mississippi's business financing system.

- Establish a Mississippi Development Finance Council

- Establish a Small Business Expansion and Modernization Fund

- Earmark a percentage of the See Capital Fund for co-investments for small scale start-up businesses

- Encourage the establishment of local and regional bank-sponsored development corporations and risk capital funds

- Provide linkages of existing state, regional and community-based business financing programs to state's business development

- Recognize financial institutions that establish innovative and aggressive development finance programs

6. Strengthen support for minority enterprise development.

- Achieve parity in business formation rates, total sales, and sales growth between Mississippi's minority and majority-owned businesses

- Increase the availability of management training and technical assistance for minority-owned firms

- Ensure that existing economic development and business assistance programs are accessible to, marketed to, and serve the needs of minority-owned firms

- Convene a task force of minority-owned firms to recommend action to remove barriers

- Increase the availability of seed and equity capital for minority-owned enterprises

COMPETITIVE COMMUNITIES

1. Target state resources to communities that make an effort to help themselves.

2. Help the poorest and most remote communities grow through incentives for regional collaboration and resource "pooling."

3. Support the creation and operation of locally-based development organizations.

4. Support local efforts to devise regional plans for environmental management and infrastructure improvements.

5. Establish a Training Institute for increasing the technical and professional skills of local and regional public managers.

Additional recommendations and background used to develop these recommendations are available in the separate committee reports, and can be obtained from the Governor's office.

GLOBALLY COMPETITIVE PEOPLE:

FINAL REPORT TO THE HUMAN RESOURCE COMMITTEE

Prepared for:
Human Resource Committee
of the
Mississippi Special Task Force
for Economic Development Planning

Prepared by:
Jobs For the Future, Inc.
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November, 1989

MISSISSIPPI:
A GLOBALLY COMPETITIVE PEOPLE

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About this report: This report is based on information provided by: Mississippi state and local agencies, regional meetings across the state, interviews with state and local leaders, health officials, educators, training providers, businessmen and women, among many other Mississippi citizens, and a survey of 800 Mississisipi companies.

This report was commissioned by the Special Task Force on Economic Development

The role of Mississippi's people in creating a globally competitive economy.

A globally competitive Mississippi must be built by the people of Mississippi for the people of Mississippi. It is the only way we can make sure our families and our children enjoy a rising standard of living.

Being competitive with other states and other countries in today's world means that the education, training, imagination, and skills of Mississippi's workers must be second to none.

It used to be that economic growth depended on tangible assets like being on a river, having an abundant local supply of raw materials, or a low-cost labor force. But as the brains and creativity of people have become more important to economic growth, so does the need to think of economic development more broadly. Areas that once were considered quite apart from economic development -- education, health, quality of life, social welfare policies, -- must now be examined as critical factors which will determine if Mississippi is to grow and prosper.

Mississippi has made tremendous strides forward in recent years by investing in its people. Mississippi has begun to create a culture which supports lifelong learning -- through mandatory kindergarten, education reform, improving higher education, and expanded adult literacy and worker training efforts. Mississippi has moved aggressively to improve the health and welfare of its youngest children-- its next generation of workers. These efforts must be maintained and expanded if Mississippi is to secure a better place in the world economy.

This report is a guide to taking the next steps.

SUMMARY OF RECOMMENDATIONS

The bulk of this report describes current Mississippi efforts to develop the skills and talents of its people, and suggests strategies for Mississippi to consider in order to dramatically increase and improve these efforts. Specific, programmatic recommendations following from these strategies include:

System Recommendations:

- ***Mississippi Community Partnership.*** *A human resource and economic development strategy built on a new partnership between the state and its communities.*
- ***Human Capital Strategy Board.*** *To articulate clear standards of "global competitiveness" for all Mississippians and to coordinate human investment strategy and resources for lifelong learning, a state-level working group comprised of all public agencies with a "piece" of the education, training, and health puzzle, as well as private sector representatives.*

Target Group Recommendations:

Adults: Preparation for Work

- *Work-Place Learning Campaign. Private sector led basic skill, literacy, and worker re-training program focused on the work-site.*
- *Training Consortia. Joint training programs run by employers.*

Teenagers: Preparation for Adulthood

- *Implement Education Reform II, with clear measures of performance and accountability for skills required to graduate from high school.*
- *JOBSkills programs with local employers. Complementary school-work learning and part-time jobs for teenagers starting in 10th grade.*
- *Statewide Teen Pregnancy Prevention Program.*
- *Youth Community Service Corps, including Peer Training Institute and Rural Youth Enterprise Development program.*

Children: Preparation for School

- *Expand Head Start and "family literacy" programs throughout Mississippi.*
- *Continue to fund and implement early childhood health and nutrition programs.*
- *Implement Welfare Reform to encourage transition to work. Target assistance on long-term welfare recipients. Raise benefit level over time.*
- *Expand and publicize child support enforcement efforts.*
- *Continue state efforts to develop day care partnerships and standards.*

SECTION I.
THE CHALLENGE

1. A CHANGING WORLD

Mississippi's people have become the key ingredient in economic growth.

> ***GIVE OLDER WORKERS LEAVE TO UPGRADE SKILLS, FIRMS URGED***
> *"Employers should give training leave to workers over 40 to allow them time to upgrade their skills, recommends the National Productivity Board..."*
>
> SINGAPORE SUNDAY TIMES, headline, May 14, 1989

> *"Low-wage companies no longer are confined to looking at states like Mississippi for a new home. They can look to Mexico, Malaysia and Taiwan, where most people will always work for lower wages than Americans... the only way America's states can survive with a low-wage strategy is to embrace the living standards of Third World countries. That is precisely the standard from which Mississippi is trying to break loose....successful strategy hinges on a well-educated work force capable of adapting to high-technology manufacturing, good transportation and affordable, available capital."*
>
> NORTHEAST MISSISSIPPI DAILY JOURNAL, Editorial, September 7, 1989

The world has changed.

Today's world economy already favors business firms and workers who are highly skilled, technically literate, willing and able to adapt, and capable of working together as a cooperative team. As the world economy has changed so Mississippi must change. The reasons for these changes include:

- In the international market, knowledge based products and services already form the mainstay of the American economy;
- New technologies are transforming the workplace;
- Knowledge is the creator of wealth and jobs; and
- Our workforce is aging and racially diverse.

- *In the international market, knowledge based products and services already form the mainstay of the American economy.*

  Low-skill jobs are ending up in the developing world, paying wages that Mississippi can't compete with. Already 30% of our national income is derived from exports. In Mississippi today over 80,000 of its 1 million plus jobs are directly linked to export markets, and the figure grows each year. In this global marketplace, the advantage for Mississippi and the US will be our brains and our productivity. Mississippi now competes with Singapore, Japan, Mexico, as well as California and North Carolina. Learning to use technology wisely and continually building a better mousetrap are the keys to economic growth for Mississippi and the country. Mississippi must prepare for better jobs.

- *New technology is transforming the workplace.*

  Tomorrow's more complex jobs call for a higher level of basic skills along with a continual updating and expansion of skills. Computers, flexible manufacturing machinery, communications advances and the like make it possible for goods and services to be customized for rapidly changing world markets. In this environment, workers need varied skills, and must be able to do complex tasks and make their own decisions.

- *Knowledge is the creator of wealth and jobs .*

  There is no doubt that an educated, highly skilled workforce creates more innovations, nurtures entrepreneurs who in turn create jobs, and can sustain higher value-added service and manufacturing jobs which raise the wages of workers. Mississippi must create such a climate of innovation and entrepreneurship.

- *Our workforce is aging and racially diverse.*

  Nationally, over 75% of tomorrow's workers are on the job today. In Mississippi, with a younger than average population, the figure is 55 %. This is still the majority of tomorrow's workers. To compete, we must continually re-invest in the skills of our adult workers. As ever, America's workforce continues to change. Tomorrow's workers all over the country will contain growing numbers of minorities and ethnic immigrants--blacks, hispanics, asians. Today, blacks make up one-third of Mississippi's workforce. Mississippi must develop the skills of black and white workers equally if it is to compete with other states and nations.

2. MEETING THE HUMAN RESOURCE CHALLENGE

Mississippi cannot be a "winner" in this global contest of brains, teamwork, and innovation unless we use the talents of all our people, to create growth that benefits all our people. Mississippi must compete as one society. In doing so Mississippi has some unique advantages:

- A special pride in Mississippi that helps us work together.
- Hard-working, honest people.
- Close-knit communities where people care about each other.
- A solid manufacturing and agricultural base.
- A beautiful, rich land of great abundance and promise.

Mississippi also has some real disadvantages. A large gap exists between the skills of Mississippi people today and those required for the future. Given the changing nature of job requirements, and the demographic shifts in the workforce, this gap is likely to get worse, not better without sustained action.

What is Required of Mississippi Workers?

The latest research, consistent with the Task Force survey of Mississippi businesses, shows that today, and increasingly in the future, Mississippi employers will require a combination of "new" basic skills that aren't being provided to the Mississippi workforce. The best description of these skills appears in the publication *Basic Skills*, issued by the American Society for Training and Development. (See box next page for further description). It includes:

- *Competence in Reading, Writing, and Computation*
- *Learning-to-learn*
- *Communication: oral and listening Skills*
- *Problem-Solving Skills*
- *Personal Management Skills: Self-esteem, motivation/goal setting, employability/career development*
- *Creative thinking*
- *Group effectiveness skills: Interpersonal, teamwork, negotiation*
- *Influence Skills: Organizational effectiveness and leadership*

Each of these skills are essential and some version must become Mississippi's definition of "work-readiness". Creating more, better paying jobs in Mississippi depends on it.

THE "NEW" BASIC SKILLS

The best description of new basic skills appears in the publication *Basic Skills*, a report issued by the American Society for Training and Development prepared under a grant from the U.S. Department of Labor, Employment and Training Administration. The new basic skills, according to ASTD, include:

- **Learning-to-learn.** This is an essential skill that every worker must have in order to learn effectively in new situations and to acquire new skills for the future. It provides the basis for lifelong learning for social as well as workplace skills.
- **Competence in reading, writing, and computation.** Society sets its own goals for literacy in the 3 Rs. Viewed only from the perspective of employers, workers must have job or occupational literacy–the ability to perform job-related reading, writing, and computation tasks demanded in the workplace. Vocational programs, especially remediation programs for adult workers, must attempt to function contextually, so that instruction will be meaningful to workers in terms of their prior knowledge and workplace experience. Job-related computation skills refer to an employee's ability to perform different mathematical tasks such as quantification, computation, measurement, problem-solving, and comprehension.
- **Communication: oral and listening skills.** To be an effective communicator, a person needs three component skills--awareness and understanding of his or her dominant style of communication; understanding and valuing communication styles that differ from one's own; and the ability to adjust personal style to a style that differs from yours.
- **Problem-solving.** This skill refers to the ability of a worker to detect the existence of a problem, critically and creatively propose and analyze possible solutions, and choose a viable solution to resolve the issue.
- **Creative thinking.** Creative thinking refers to the use of different forms of thought to visualize innovations and generate ideas to fill a perceived need. Having a workforce with the ability to develop new and relevant ideas is a hallmark of new basic skills.
- **Personal management skills: Self-esteem, motivation/goal setting, employability/career development.** These are the building blocks for good morale and, ultimately, organizational productivity.
- **Group effectiveness skills: Interpersonal, teamwork, negotiation.** These are some of the most critical yet different skill needs for the future workplace. As workers move into a more interdependent environment, the ability to work with others to accomplish job tasks will begin to dominate. Negotiation refers to the resolution of differences through compromise, accommodation, or collaboration.
- **Influence Skills: Organizational effectiveness and leadership.** Quite simply, this is the ability to work through the social and organizational connections that exist within a firm, or between the workplace and the outside world. Leadership motivates others to understand a goal and move toward accomplishing it.

The Current Situation

Mississippi, like the nation, is slowly making the transition from a low-skill agriculture and mass-production economy to a high skill manufacturing and service economy. Contrary to some notions, Mississippi for many years has been a manufacturing state. Nearly 3 out of 10 Mississippians work in manufacturing versus 2 of 10 in the nation. As manufacturing and supporting service jobs have changed, so have the kinds of people employed. In Mississippi the numbers of professional, technical, managerial, sales, and clerical jobs in the state have increased over the past 10 years, while production and agricultural employees have decreased. These trends are likely to continue.

While Mississippi's economy is weak, the jobs that do exist in Mississippi already require more advanced skills:

- By Jobs For the Future's own comparison method, Mississippi's current and future job skill requirements for levels of reading, factual knowledge, thinking, interpersonal, motivational, and physical skills are the same as workers around the country.

- Mississippi jobs assessed by the reasoning and reading skills they require give an average score of 5.37, just below the national average of 5.6. While Mississippi lags behind "high-tech" states like Colorado (5.8), it's ahead of states like Indiana (4.7).

- Over 50% of the new jobs in Mississippi between now and 1995 will require the highest levels of intellectual skills and factual knowledge. In these measures, Mississippi is ahead of comparison states like Indiana.

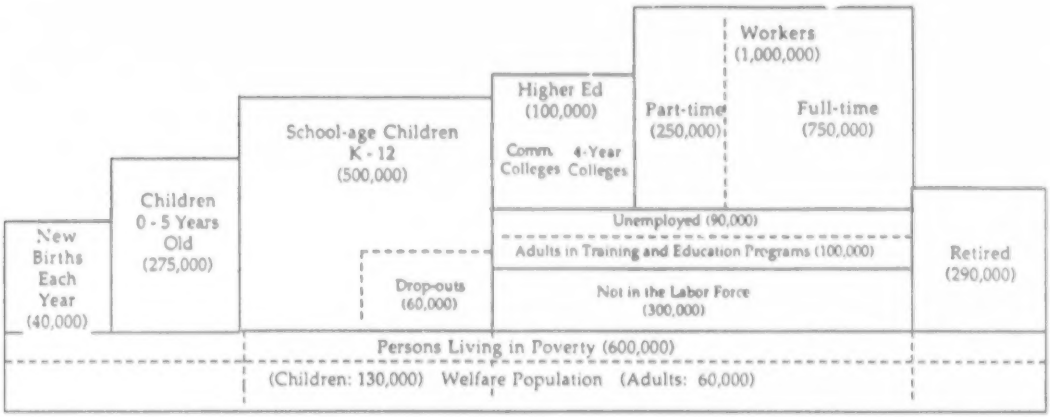
- Mississippi employers agree with these predictions. Our survey of 800 companies told us their greatest skills needs *among all types of employees* were for problem-solving skills, communication skills, ability to determine priorities, and leadership and group effectiveness.

- Mississippi employers today can not get the skilled help they need. In key skill occupations close to 70% of employers surveyed aren't able to find workers. This in a society with 9% unemployment.

Are Mississippi's Workers Ready?

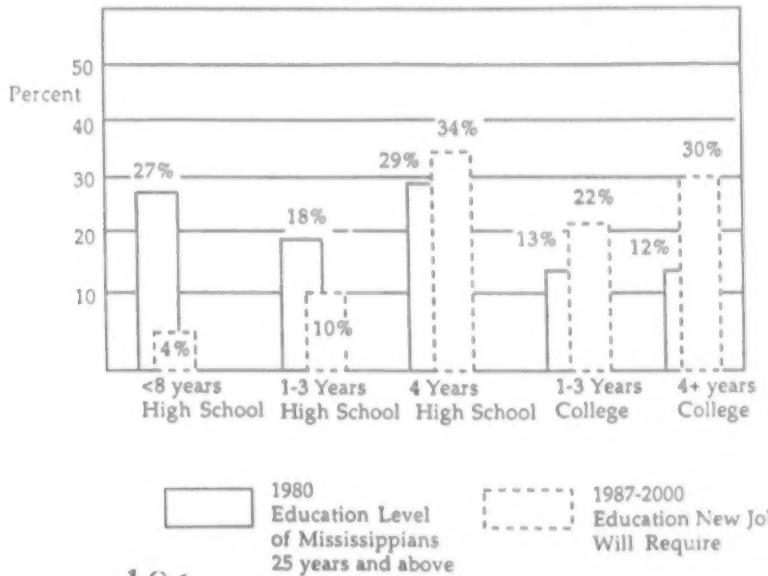
Is Mississippi ready to fill these higher skills jobs? Not yet. The challenge for Mississippi is to help its citizens get up to speed to take advantage of these new, more demanding jobs. To meet this challenge we need to examine where our workers of today and tomorrow will come from.

The next diagram paints a rough picture of where our 2.7 million people are--how old they are, whether in-or-out of the workforce, poor, on welfare, in school, or earning their own way.



The easiest way to tell if Mississippians are "work ready" is to show how much schooling we have, compared with the demands of tomorrow's jobs. The following table compares education attainments of our workforce, with the percentage of jobs available for that level of education in the future, based on Department of Labor estimates.

Mississippi Workforce Education is Below What's Needed for New Jobs



As the previous diagram demonstrates, Mississippi has a tremendous skill gap. This skill gap is no surprise.

- While 27% of our work force had less than 9 years of schooling, only 18% of the work force nationally and 24% in Southern states were comparably uneducated.

- Mississippi ranks 48th among states in percentage of people without a high school diploma (close to 47% of adults over 25 versus 35% nationally) and over 10,000 additional young people drop out of high school each year.

- Only 12.3% of Mississippians had four year degrees, versus 16% nationally and 14% in other Southern states.

And these gaps are much worse for black Mississipians than for white ones.

Critical Target Groups

Given the characteristics of Mississippi's future workforce, this skill gap is likely to get worse not better, without a transformation. Mississippi's demographic realities point to several populations needing special attention if Mississippi's workforce is to meet a world class standard. Simply improving our K-12 education system and institutions of higher learning will not be enough.

- 32% of our people are less than 17 years old (versus 28% nationally). Mississippi ranks number three in the country in percentage of population of school age (5-17). Too many of our young adults are not moving into higher education or good jobs.

- With a high birth rate (17th in the country), Mississippi has large numbers of its children in the pre-school years. Close to 40% of its children are born into poverty.

- Very large numbers of the adult work force are in need of additional skills. Estimates are that 27% or 400,000 Mississippi adults are functionally illiterate.

- The overwhelming majority of Mississippi's future workers will be women and minorities--over 6 out of 10 new workers.

No state has a better opportunity nor a more urgent need than Mississippi to be innovative and effective in reaching these populations. If successful, Mississippi can catch up quickly and move past other states in building a true workforce for the future.

- **Women:** The female labor force grew at double the rate of men during the last decade. And estimates are that 60% of Mississippi's new labor force between now and 2000 will be women. From 1980-1987 the number of women working in Mississippi or looking for work rose three percent, while men's participation in the economy fell off. Three out of 10 of these women worked part-time. Many are mothers with young children.

- **Minorities:** The future success of the Mississippi economy will be linked to its ability to use its black workforce. Blacks constitute 3 of every 10 Mississippi workers, but are consistently underrepresented in skill occupations. Due most probably to the out-migration of whites, all of the increase in state working age population between 1980 and 1987 was accounted for by blacks. Blacks are more likely to be dependent on part-time employment than whites. This is not by choice; 47% of part-time black workers wanted to work full-time, while only 23% of white part-time workers desired to be full-time.

- **Adults–Preparation for Jobs:** In Mississippi and across the nation, the overwhelming majority of tomorrow's workers are in the labor market already. Mississippi has more than a million workers on the job and several hundred thousand more who can't find work or who have given up trying. In the short-term, Mississippi can only compete if its current workers are prepared for more complex, higher skilled occupations.

  With only 1/2 of adults possessing a high-school education, 130,000 adults dependent on welfare, and many workers employed in companies or at jobs where little or no on-going training is delivered, the challenge for Mississippi in creating a world class workforce is tremendous. It is a responsibility which both the public and private sector share.

  As a survey of Mississippi employers showed, 64% of Mississippi employers feel more training is desirable for their existing workforce. Employers across the board viewed getting the quality workforce they need as one of the top constraints on future growth, and manufacturing firms in particular rated labor quality as their number one competitive concern. Close to 70% of all employers can't find skilled help they need in key occupations.

- **Teenagers--Preparation for Adulthood:** Much of the ability to develop the state's economy depends upon the knowledge, skills, and motivation of new

entrants to the workforce. Much of Mississippi's economic future rides on what happens to these new workers before they enter the labor market.

Mississippi still has an intolerably high drop out rate (over 35 of every 100 students in 9th grade don't make it to graduation), and unacceptable levels of youth unemployment (32%, and 50-60% for blacks). Teenagers are dropping out of the labor force much faster in Mississippi than in the nation. In Mississippi the incidence of teen births is rising from levels that are already above the rest of the country. The costs to Mississippi society of young teens who have to care for an infant are staggering. The Board of Public Health estimates the the direct cost of AFDC, food stamps, and the like for each infant is $35,000 over their 20 year childhood. At the current rate of pregnancies, that means $280 million dollars each year is already committed to pay the bills for these mothers and their children.

More subjective indications such as the comments of employers, educators, and participants in our regional meetings, point to teen-agers who aren't motivated, inspired, or aware of opportunities to work and better themselves. In too many cases, Mississippi's young people aren't provided role models or acquaintance with the skills necessary to contribute at work.

- **Children 0-4, Preparation for School**: These are Mississippi's workers for the next century. All the evidence proves that investment in the health and education of our youngest citizens will pay enormous dividends in reduced social welfare costs and greater productivity in years ahead.

  Mississippi is a young state relative to the rest of the country and has a high birth rate -- over 40,000 infants are born each year. Far too many of these infants are born into poverty. We estimate close to 40%, versus 20% nationally. While improving in key measures such as infant mortality rates, low birth weights, and the numbers of mothers who receive adequate pre-natal care, Mississippi still rates near the bottom nationally. Head Start and other early childhood education is available for some but not enough of Mississippi's young people who might benefit from it. 63% of Mississippi's mothers of young children are now working, and many women, particularly poor women, are hard pressed to find day-care for their children.

Why We Need to Invest in *all* Mississipians: The Costs of Doing Nothing

This report will suggest strategies to make sure all Mississippians, and particularly these vital at-risk groups, get the education, skills, and assistance they need to be globally competitive. But we first must all agree on why reaching all Mississippians is so important.

To be competitive, Mississippi must work as a society utilizing all its citizens. We can't be content so see *some* of our children in good schools, *some* of our workers getting basic literacy and skill training, *some* of our young people graduating from high school and college into good jobs, *some* of our infants enjoying good health. The costs to Mississippi society of those who don't make it are already too enormous.

Mississippi simply can't afford to continually spend its scarce resources to maintain a large percentage of its people in poverty and dependency and to continually compensate for health and education deficiencies.

High school drop-outs, babies born to teenagers, prematurely born infants, families on welfare, underskilled and illiterate workers -- cost *all* Mississippi citizens millions of dollars each year in taxes and the support programs that these taxes pay for. They also cost untold millions in lost opportunities for economic growth these citizens could help generate. We are all "at-risk" unless we help *all* Mississippi citizens become economically self-reliant.

Mississippi is also one of the morst rural states in the country. 53% of its population lives in rural areas. Currently whole regions of the state and whole communities are in danger of being left behind economically. As Gov. Mabus recently put it to the Rural Development Conference: "If we only help the big places and ignore the places where we grew up, we haven't succeeded."

Whether rural or urban Mississippi spends too much just to stay in place. And the days of standing still have to end.

3. THE LIFELONG LEARNING SYSTEM TOWARDS CONTINOUS IMPROVEMENT

Today "education" can't just happen in the classroom for a certain period of time. Today's demanding economic climate asks all of us to keep learning over our lifetimes. It also requires us to look hard at what we are doing to prepare our children, teenagers, and adults for this world of work. We must do better. If we think of continuous improvement over our lifetimes as the goal of a human investment system, we will see that the current "system" is still not adequate to meet the needs of Mississippi citizens. But it is improving.

Mississippi has seen the human resource challenge of lifelong learning and made tremendous headway in recent years, particularly in improving its basic education system.

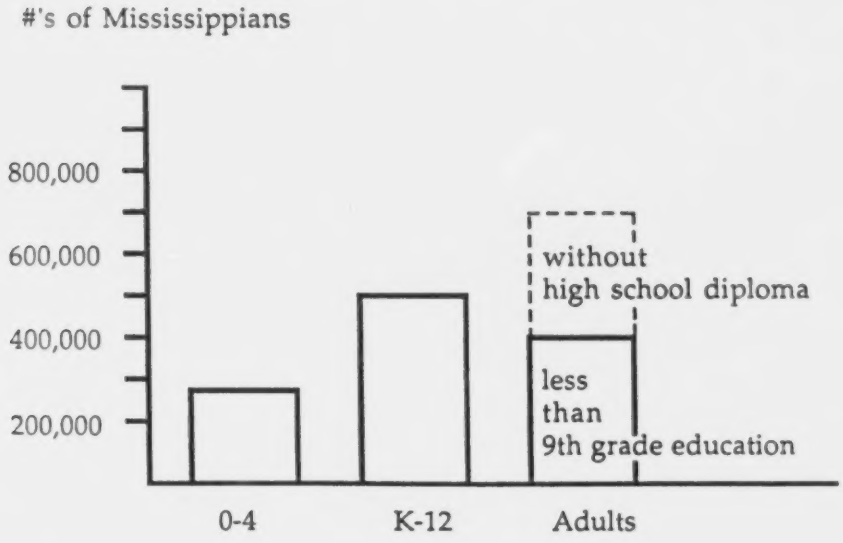
Education reforms and increased investments in early childhood education, infant and mother health, adult literacy, and higher education have already begun to pay dividends. Communities around Mississippi are taking the bull by the horns and devising new and effective means of educating their people, and lifting citizens out of poverty.

The current education reform effort continues on this ambitious course--under the banner of creating a "world-class" education system for the year 2001, and stretching the idea of essential education investments to include pre-school children and adults. The Task Force endorses and supports fundamental education improvement and reform.

While we applaud the increased investment and reforms in basic and higher education over the recent years, we must build on these initiatives additional reforms and an ambitious agenda to help the populations which are at-risk of falling into poverty, or entering the work force ill-prepared and in so doing putting all Mississippi at a disadvantage. We must look at the lifelong learning "system" and seek dramatic improvements.

Where the Needs Are

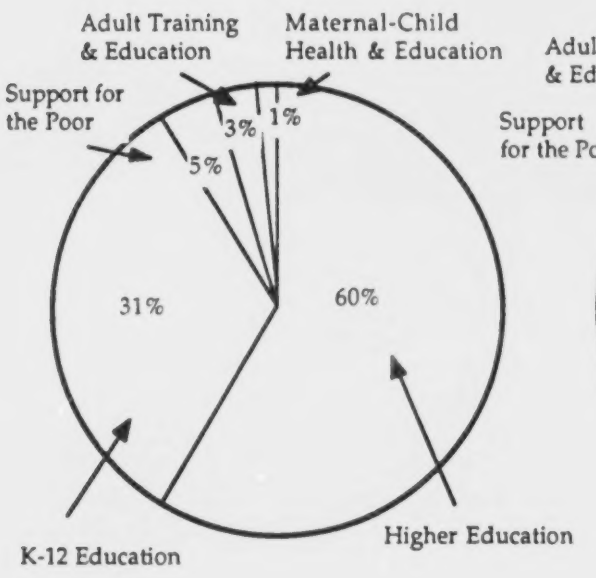
As we have seen, there are large populations in need of additional education. The following bar graph illustrates the rough size of these different Mississippi populations.



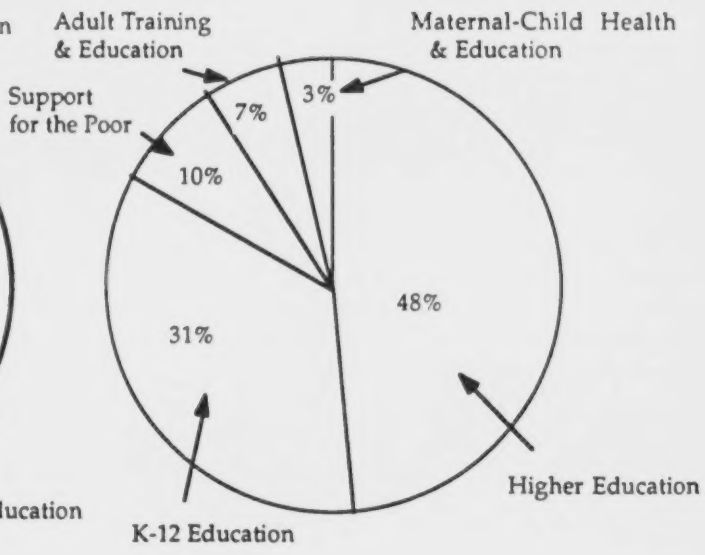
Where the Help Is:

How much are we spending to help people in various stages of their lifelong learning? These two pie charts are our very rough estimates of where current state, and total dollars (state, federal, private, and local) go in the main areas of human resource development. As you will note, despite roughly equal numbers of children and adults in need, the lion's share of both state and total spending goes to K-12 and higher education. And Mississippi remains dead last among southern states in putting its own money into adult education.

Total State $ in Human Resource Investment ($1,250,000,000)



Total $ in Human Resource Investment ($2,900,000,000)



Programs and Institutions

But money is not the only issue. In fact in all our discussions around Mississippi, with people in and out of the "learning system", the more common view was that Mississippi wastes a lot of the money it does spend. We repeatedly heard complaints about different programs and institutions competing with each other for state and federal dollars to run their own pet programs. Frustration was expressed at the "chaos" of existing programs and institutional rivalries at both the state and local level. Results or "outcomes" of various education and training institutions were hard to get and even harder to compare.

A lot of good programs do exist which help people–and we try to highlight some of them in this report. We also will discuss in more detail the inadequacies and strong points of the lifelong learning system as it affects our target populations. But the system as a whole is characterized by warring bureaucracies and juridsdictions, and inadequate attention to performance and accountability. Some examples:

- A company gets calls from three different people representing three different programs for adult education and training.
- A community college that doesn't know where or how many of its technical graduates are placed in jobs.
- State bureaucracies charged with serving the disadvantaged that don't talk to each other.
- Public and private community literacy efforts that don't work together.
- A PDD representative who doesn't know a Small Business Development Center was established in his town until he read it in the paper.
- The perception that out-moded vocational courses still exist at secondary schools and community colleges.

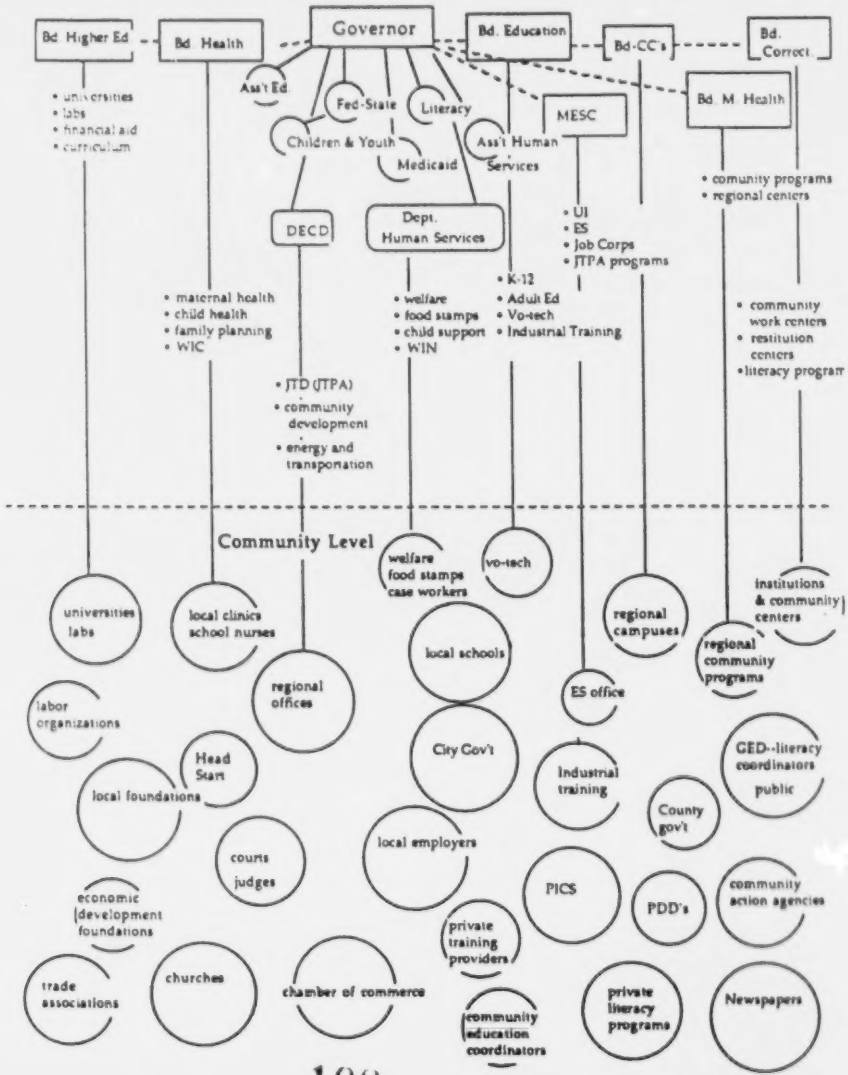
Some institutional and programatic rivalry and complaints are to be expected in any state. And certainly some competition among education and training providers is healthy to encourage better performance. But Mississippi particularly can't afford conflict which leads to duplication and inefficiency, or institutional rivalries at either the state or local level that impede performance for Mississippi's citizens.

Certainly Mississippi doesn't lack for state and local institutions and programs. In fact it has a good amount of infrastructure and incentives in place in

the human resource "system", particularly at the local level including schools, Universities, Community Colleges, PDD's, local and county governments, community action organizations, local foundations, Industrial Trainers, and tax credits for worker training and job creation. And recent state government reorganizations should do more to encourage accountability and efficiency among state agencies.

While additional funding for neglected pieces of the lifelong learning system is essential, Mississippi must look first to better use the resources and institutions that currently exist. The map below identifies most of the "players" in the network for human resource development at the state and community level. At both levels Mississippi must radically transform the way it does business.

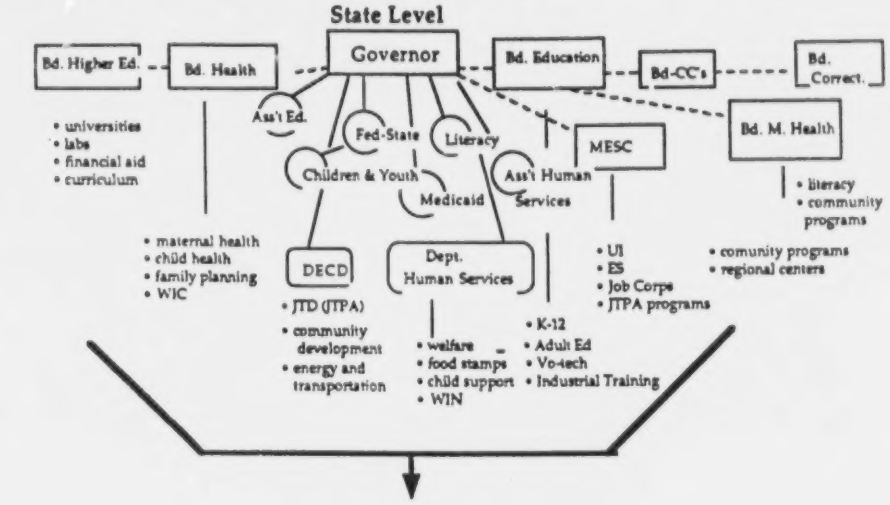
Our challenge is twofold: *Dramatically improve the capacities of Mississippi communities to organize themselves as collaborative teams for human resource development; and improve state organization and coordination of a human resource development system which ensures accountability, performance, and efficiency.*

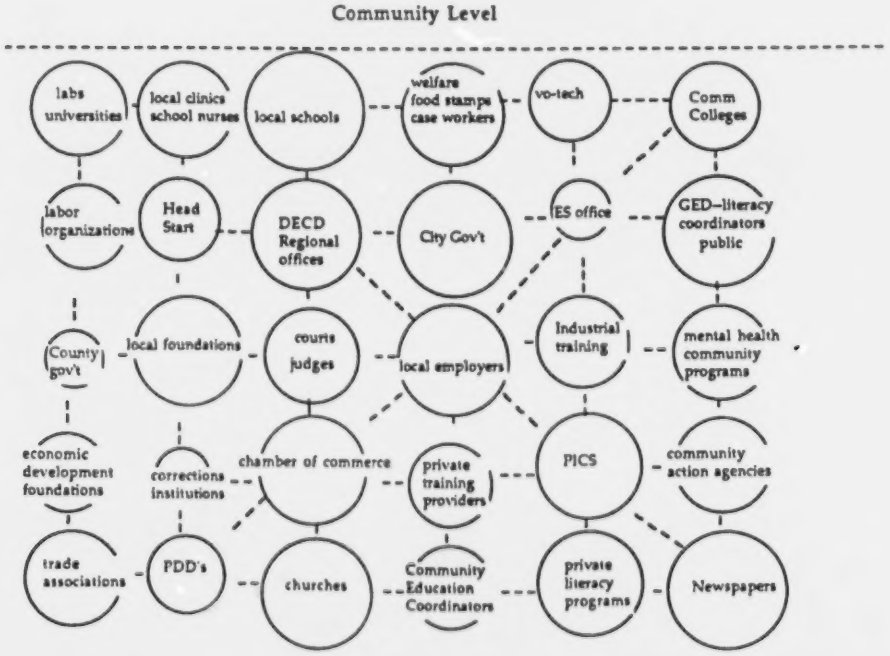


System Improvements

To meet the challenge of competing in today's globally competitive environment, both the state of Mississippi and each and every one of its communities must fundamentally re-think the way it does business. As one local official we interviewed put it: "We need to work together in a tight circle."

The map on the previous page must begin to more closely resemble the map below: tighter connections and communication at both the state and local level, and emphasis on performance and accountability. This is not only a change that Mississippi must make but that US corporations and organizations of all sorts are already making -- flat hierarchies, decentralized decision-making, teamwork is what Mississippi needs to compete.





4. VEHICLES FOR CHANGE

To realize this systematic change we suggest two statewide initiatives which will help to organize and implement a competive Mississippi economic development and human resource system.

Mississippi Community Partnership

Mississippi has a lot of root problems. There is no one silver bullet to solve them. Rather Mississippi must commit to a permanent sea change in the way it organizes itself and acts to encourage human resource and accompanying economic development.

Rather than look to outside saviors, like the miraculous appearance of a "plant", Mississippi communities must look within to see if they have the essential prerequisites for attracting that plant, or more importantly, helping the industries and entrepreneurs within the community to prosper.

To foster this self-help, community-based institutions such as community colleges, high schools, universities, Chambers of Commerce, PDD's, community organizations, and local offices of state agencies must work together--*permanently* -- rather than each looking to get as much money as they can to run their own pet programs.

The state of Mississippi must cut the umbilical cord that encourages local institutions and programs to try to get money from Jackson and Washington for separate agendas, and replace it with a system based on community partnership among existing institutions.

The most successful communities in Mississippi and the nation are those that have constructed such a partnership; through the creation of local foundations, public-private community strategic plans, or simply aggressive and real teamwork among local officials and institutions. Local schools won't improve, nor will investments in housing, health care, and the like be made until the community demands it--and works together to implement it. Often the catalyst in community development has been a visionary educator, elected official, preacher, or businessman or woman. There is no way to predict where community leadership can or will come from. But it needs to happen and Mississippi has to make it happen.

Mississippi must seek to reproduce this process of self-education and self-help in all its communities. Any true community partnership must tackle many issues, but it is especially important in developing Mississippi's

human resources. Today the skills of human beings are the chief source of economic growth and new jobs.

The report "After the Factories Revisited" found that in rural areas of the South, the single most powerful predictor of economic growth is the level of education and human resource development. Period.

Successful communities around the country and in Missisippi have learned this lesson and shown that they can control their own destiny and reap the harvest of economic growth as never before by educating and helping their people participate fully in the economy.

Community Partnership: Create a permanent capacity to plan and adapt to economic change and solve community needs at the local level. How do we get there:

1. A Public commitment by Governor, Legislators, and private sector leaders to a community-based development strategy. Call for permanent community development efforts in all of Mississippi with state assistance, building on and adding dramatically to the good efforts of DECD, Community Colleges, Chambers of Commerce, Private Companies, and others already underway.

- Governor, legislators and State officials convene public "Congresses"/meetings in communities to announce Partnership and begin process of community development.

2. Communities form Steering Committees to work at local comprehensive planning and identification of challenges communities themselves see. Through this process communities begin to build the capacity to help themselves: develop local data, analyze community strengths and weaknesses, set community goals, and hold local hearings to inform the process. (Some Mississippi communities have done this with good results).

- Governor and State officials work with Communities based on their ability to organize these "steering committees" or similar structure representing different sectors of community. Criteria for steering committees could include:

1-black-white participation
2-public-private participation
3-multiple juridsdictional participation (county/town)
4-community-based organizations represented

3. Community Partnership challenge grant funds allocated to community steering group for proposals based upon the following :

- Measurable results to be achieved in human resource or other investment (literacy rate up x%, teen pregnancy down x%, Head Start enrollments up x amount, school graduates employed by x number, x # of houses rehabilitated),
- Process of decision making conforms to criteria above,
- Provision of a local match, with match based on some measure of local ability to pay (per capita income or other measure).

4. Besides challenge grants, State facilitates by :

- Requiring state agencies locally to organize an interagency task force to be available to work with the steering committee.

- Organizing presentations by state and local officials identifying community challenges that they see: adult literacy, teen pregnancy, health, housing, (many communities don't know what is happening in their own back yards).

- Making sure State agencies, PDDs, Education institutions provide technical assistance to existing community-based organizations and in the formation of new ones to meet identified needs in housing, financing, training, land and infrastructure development.

- Organizing "cross pollination" presentations from other communities that have developed similar process.

- Asking state and local Leadership training groups and alumni to take a key role in local steering committees and in organizing statewide education programs about locally based development strategies.

- Ensuring State officials are responsive to community steering commitees and are called upon to personally appear.

5. Governor and State officials focus personal attention and special assistance to "jumpstart" community development planning in areas of greatest human need, and where obstacles to local cooperation prove insurmountable without outside intervention.

6. Funding for local steering committees staff and process provided locally. Local steering committees working with local officials develop plan for ongoing assessment of progress towards reaching community goals.

7. PDD's, DECD, and local steering committees combine to craft regional development plans for issues beyond community juridsdiction.

Timeline: Steering Committee Meetings, Summer 1990

Community Strategic Planning 1990-1991

Challenge Grant funding 1991 Legislative session

Lifelong Learning System

The flip side of what the communities must do is the state system for encouraging accountability, performance, innovation and community-based leadership in human resource development. Local control is sacred in Mississippi and that is not going to, and should not change. But the reality is that all areas of the state now compete in a global marketplace. While communities must be free and encouraged to adopt innovative strategies for improving the education and skills of citizens, the State must insure ultimate outcomes are achieved.

Mississippi is reaching for ambitious goals through continuing education reform. One of Mississippi's goals must be to quickly build its own globally competitive labor force to compete in a changed world economy. Mississippi can achieve this goal by being the first state in the nation to institute a lifelong learning system, including full cooperation and agreements between institutions to allow all citizens, at all ages, to continue their education, while assuring accountability and performance throughout the system. A lifelong learning system will require an unprecedented integration and coordination between the workplace and the classroom.

What is a learning "system"?

To the individual seeking services the learning system must appear as a system; a network of varied opportunities provided by a diverse set of public and private providers. It must be customer driven, user-friendly (easy to negotiate), well coordinated, and accountable. The system should include:

- All education and training services easily accessible,
- Allocation of educational resources and services to provide equal opportunity,
- Choice and diversity in education and training options,

- Outcome and performance as system drivers,
- Individual-centered approach to learning,
- Early intervention to reach at-risk populations,
- Coordination and partnerships between institutions and the private sector.

How can Mississippi develop such a system?

Step One: Basic Education improvement and reform.

Mississippi has taken the first steps in upgrading, reforming, and increasing funding for its K-12 and higher education system. These are long-term investments in Mississippi's future, building the competitive workers of tomorrow. These investments and reforms must be continued.

Step Two: Human Capital Strategy Board

Establish a professionally staffed public/private policy board to oversee design, implemention, marketing, and evaluation of the state's training, education, and supportive service system for adults and youth. Following the lead of Michigan, which has created a Human Investment Council combining private sector leaders with administrators of the JTPA, MESC, Education, Economic Development, and other state bureaucracies involved in education and training (we suggest also including Health), such a board can set priorities, provide performance incentives, improve compatibility among service providers, and tie together disparate programs and funding streams.

The recent reauthorization of JTPA provides resources for the establishment of a state Human Resource Investment Council in every state: this may serve as the institutional form for this recommendation.

Job # 1 for Human Capital Strategy Board will be to:

- Develop common statewide definitions and outcomes of "work readiness". These should be based on Mississippi's measures of basic skills to be globally competitive, similar to those in the beginning of this report.
- Establish criteria for integrating existing state and federal programs and dollars into a more coherent system of investment.

- Establish standards for programs related to determining client skills, aptitudes, special learning needs, and providing support services.
- Establish system for monitoring attainment of expected outcomes for all programs and institutions in system.
- Develop means to allocate resources to these programs and institutions based on achievement of outcomes.
- Develop common data base for information, and format for reporting program outcomes; eliminate current incompatible data.

Timeline: Establish Human Capital Strategy Board by February 1990.

Implementation plan with standards, roles, and timelines developed within 5 months.

Job # 2: Develop a skills assessment tool for measuring Mississippi's definition of work-readiness. This tool would be deployed in all Mississippi education and training programs, and used to standardize intake procedures, determine incoming skill levels, needed services, progress towards completion of personal plan, and effectiveness of programs which individual has used.

To be most effective assessment must be:

- Driven by individual needs, not mandates or eligibility requirements of current programs.
- Include common intake form and procedure, used by all employment and training providers (carrying further common intake tool now being developed by Welfare and MESC).
- Used to measure effectiveness of programs, and to issue "report cards" to consumers.
- Used to allocated operating and incentive funds.

Timeline: Target date for implementation January 1991.

(In developing these diagnostic and assessment tools include institutions and organizations outside of government such as unions, professional organizations, trade associations, in order to develop compatible standards with professional programs, apprenticeships and internships.)

Job #3: Like many state Skills Corporations, Strategy Board can act as a clearinghouse between state and federal dollars and effective education and training partnerships. The Strategy Board should develop incentives and allocate funding for better partnerships between private sector and training institutions and programs:

- Match private training dollars with state dollars in training consortia among groups of employers.
- Challenge grants as part of Community Partnership to communities showing innovative human resource plans.
- Re-orient state adult vocational-technical funding for workplace "basic-skills" training with private sector match.

5. GUIDING PRINCIPLES FOR BUILDING A COMPETITIVE WORKFORCE

The system changes just described can help Mississippi get organized to meet its human resource challenges. But specific programs and policies that are developed in a lifelong learning system are only as good as the principles that guide them.

Following are several guiding principles and strategies for developing Mississippi's human resources. Together they reinforce each other and provide specific direction for investing in Mississippi's people. As we discuss our target populations in more detail in the next section we will build specific recommendations around these guiding principles.

These strategies are not necessarily new to Mississippi. As we shall see they build on approaches that are already bearing fruit in Mississippi and across the nation. The hard part is to make sure they guide our efforts and to follow through with tangible actions that are consistent with these directions.

1. **Center lifelong learning on the personal context, self-esteem and motivation of the individual.**

   The first building block of self-growth is self-esteem. Effective assistance must build on the existing context of an individual's life--their personal hopes, dreams, fears, and sense of worth. Next, individually tailored plans must reinforce personal connections that are most important--to families, peer, and work groups. A partnership must be nurtured between the individual and those

most important in their lives, and must set clear expectations in terms of what the individual must do, and what the state or assisting agency or group will do. This means making welfare and job training not a hand-out but a personal contract for improvement and self-sufficiency. It also means developing a client-based system whereby the multiple needs and problems of the individual (health, housing, education) are treated together in a comprehensive manner.

2. **Develop a true community-based response to meet human resource challenges.**

   Just as all politics are local--all real solutions for helping people make the most of themselves are local. The bonds between people and institutions are built here, state and federal money and programs get delivered, and neighbors decide to help each other or they don't. Jackson bureaucrats can't create local leadership and locally responsive solutions. In order to best understand education, health and family needs, and deliver an effective response--nothing can substitute for a mobilized, energized community--clear on what they want to do, and unified in doing it. Our churches (black and white), our schools, our businessmen and women, our local officials--together hold the key for meaningful change. Where this community action and leadership doesn't happen, it must be nurtured.

3. **Create a seamless web among providers of education, training, and human services.**

   The lifelong learning system must be "user-friendly". Clients, both businesses and students, must be able to get what they need at the right price, be able to easily understand and access the system, move from program to program, and institution to institution with no friction or duplication, access learning over their lifetimes, and receive skills and credentials that are up-to-date, and transferrable between institutions and regions.

4. **Bridge the racial gulf which still separates many Mississippians.**

   While Mississippi has made great strides forward in race relations and is viewed by outsiders perhaps too harshly in terms of its racial problems -- it must meet the reality and the perceptions head-on. We still are separated by race; individual from individual, community from community, region from region. Mississippi has a higher percentage of blacks (35%) than any other state in the nation. It needs both its minority and white citizens to develop world-class skills if it is to prosper. Blacks are still underrepresented in skilled trades, professional and management ranks. Both blacks and whites must meet this challenge. Mississippi must deliberately and explicitly craft its human investment strategies to bring blacks and whites together in business, in communities, and across regions of the state to move beyond its past.

5. **Target rural poor for special assistance.**

Mississippi is one of the most rural states in the country. A globally competitive Mississippi won't be a reality when large numbers of people aren't skilled, and large, predominantly rural parts of the state provided with real job opportunities. Here the state has a particular responsibility to help. But this doesn't mean just throwing more money at the problem. It means developing regional and community leadership and economic development plans with aggressive state assistance. The state can send a signal that these regions matter. It can prod and encourage communities and regions to work together and help reproduce effective programs and projects. The state can reward local innovation and initiative. It can help link rural communities, workplaces and schools to the global economy. It can make sure its own agencies have clear missions and are cooperating and effective in working with communities and individuals in distressed areas.

6. **Prepare Youth for an Increasingly Technical and International Workplace.**

Doing better on the basics tested by the SAT and ACT is crucial but insufficient to insure a competitive workforce. More and more jobs are going to require technical credentials. Right now, however, disadvantaged, minority, and female youth are less likely to acquire the skills or interests to pursue technical degrees. Given the composition of Mississippi's present and future workforce, early and intensive interventions are needed to make sure that the state's workforce will have enough technically prepared entrants and it does not find itself left further behind as basic skill levels rise. Similarly, increased knowledge of foreign language and cultures will be increasingly important. Together these represent a challenge to current and future education reform efforts in order for Mississippi to take giant leaps forward.

6. DEVELOPING STRATEGIES FOR SUCCESS: WHO'S RESPONSIBLE FOR LIFELONG LEARNING?

Here, there is one simple message: All of us as workers, employers, educators, officials, community leaders, and citizens of Mississippi have roles to play in creating a culture which realizes the goal of continuous improvement. Work force preparation must now be a lifelong and interactive process requiring workers, their families, employers, and education and training institutions to work together in new ways.

To develop strategies to meet the needs of Mississippi's key target populations we must allocate more efficiently and effectively the responsibilities we all share in creating a competitive workforce:

- *People in the private sector must be globally competitive*: For its workers and managers this means less hierarchical and compartmentalized organizations to allow greater flexibility, and human resource policies that promote continuous learning, teamwork, participation and flexibility. Companies must take the need for skill upgrading seriously and realize their own competitive futures depend increasingly on the quality of worker's skills.

- *People in the public sector must be competitive*: Honest and accountable, public officials, educators, and civil servants at all levels must reach for new standards of performance if Mississippi is to compete. Public servants have a responsibility to cut through organizational and bureaucratic procedures to be lean, efficient providers of public goods like basic education, become strategic investors in human resources, and effective catalysts for private sector and community innovation to meet pressing social needs.

- *People in our communities must be competitive*: People must work together as a community, linked to the outside world, and depending on each other, innovative and accountable in delivering basic goods and services like education and health which promote economic growth and individual well being.

- *Each individual must be competitive:* Educated, skilled, healthy, motivated, working together, black and white as one society, and fully participating in a culture of lifelong learning and continuous improvement.

SECTION II.
A LIFETIME OF OPPORTUNITY:
TARGET POPULATIONS

We've seen that Mississippi has a lot of work to do to transform its "system" for human investment into one that helps all Mississippi citizens get the skills they need to be globally competitive. The next section digs deeper into the needs of our key target groups: Mississippi adults, teenagers, and young children, and the ways in which the lifelong learning "system" can be improved and extended. In this discussion we make suggestions and recommendations to help these groups, and particularly women and minorities among these groups, participate more fully in a growing economy.

Where we are, Where we need to go.

Examining current Mississippi efforts to assist our target populations we can see that elements of successful strategies are already at work. Mississippi can take tremendous encouragement from the success it has had in recent years in building its human potential. Much more needs to be done.

Here we look at each target population, outline the magnitude of need and key issues to address, summarize current Mississippi practices to assist each group, and discuss best practices and recommendations for future action. There are a lot of "good ideas" in this report--from Mississippi and elsewhere--which can serve as inspiration and models for state and local human investment efforts. We have limited our specific recommendations to a few key actions which address what we feel are the top priorities for change.

ADULTS PREPARING FOR WORK

By this time, most Mississippians are aware of the dimensions of the gap between the education and skill attainments of its current work force and the requirements for the jobs that exist today, and will be created tomorrow. There are several ways to measure this skill gap:

- There are over 1 million Mississippi men and women on the job today. If national figures are any guide, 2 out of 3 will require some form of training or re-training to keep their jobs.
- There are 700,000 Mississippi adults who lack a high school education, most of whom are on the job today.
- Of these seven hundred thousand, 400,000 are functionally illiterate.

- There are 300,000 adults who are below the poverty level.
- There are 60,000 adults who depend welfare payments.

Mississippi faces tremendous challenges in creating an effective lifelong learning system that can reach a significant number of these adults in need. Some observations from around Mississippi:

> *"Our companies are afraid of high-wage jobs--all they think is they will have to pay more, they don't want literacy."*
>
> *"You can't expect proud people to walk into a room that says "literacy"--you've got to call it computers or something."*
>
> *"Since the only money is federal--everyone's trying to grab it (JTPA)--some proposals make no sense."....."Everybody is greedy and grabbing for money, everybody wants to do their own thing"....."No one wants to work together, that would require someone to be selfless--it will take someone to bust some heads together to get cooperation."*
>
> *"The school should be the home of one-stop shopping for economic development"....." The Community College should be the home of one-stop shopping for economic development"...The city development office should be the home of one-stop shopping for economic development"....."The Department of Economic & Community Development should be the home of one-stop shopping for economic development."*
>
> *"Clients have to find their own way around the system--Welfare can't do anything with their huge caseloads--we need a client based system."...."People on welfare too often face a choice during the winter....heat or eat!"*
>
> *"Our business advisory committees don't lead--they just react"*
>
> *"I'll be walking in the door of a plant (Industrial Coordinator),.... and the Adult Basic Education person will be walking out; it makes us look stupid."*

These impressions may be correct, or they may be exaggerated--but it is clear that Mississippi has a lot of work to do:

- Mississippi employers bear witness to a tremendous skill gap -- over 70% can't find the skilled help they need -- and all firms rank poor labor quality as

the top or one of the top constraints on competitiveness. While Mississippi employers recognize the need to train workers, they aren't satisfied with the help they are getting. Only 13% of employers said they were happy with education and training assistance provided by public and private institutions, 45% were dissatisfied.

- Tremendous variations exist among adult skills and opportunity in different regions and communities. Adults without a high school education are 70% of the workforce in some areas--30% in others. Poverty rates vary from highs of over 50% of all families to lows of 10%.

- Mississippi has a welfare system that can barely pay the checks, much less help individuals develop and act on a plan to escape dependency. Welfare reform will help, and provide additional resources for meeting the barriers to self-sufficiency many on welfare experience, including lack of training, child-care, and transportation. Welfare reform deserves our best effort to make it succeed.

- Adult education and training programs remain spotty, disjointed, and relatively meager in light of the tremendous need that exists. Mississippi lags far behind its southern neighbors in devoting any of its own resources to adult education. While state and federal figures don't adequately reflect local investment in adult education, of all the southern states, Mississippi is last in matching federal dollars with state dollars for adult education. (While Mississippi matches 11% of what the Federal government gives it, North Carolina, Arkansas, and South Carolina match 300%, and Florida 2000%!).

- Mississippi does have many of the resources and institutions it needs to do better--community education and leadership efforts, community colleges, technical schools, industrial coordinators, economic development agencies, welfare agencies, employment security agencies, planning districts, workplace literacy tax breaks, local literacy councils and many other institutions and programs that currently constitute pieces of the adult education puzzle. What's needed are clear goals, better cooperation, and allocation of scarce resources to do the most good.

Goals/Benchmarks of Success

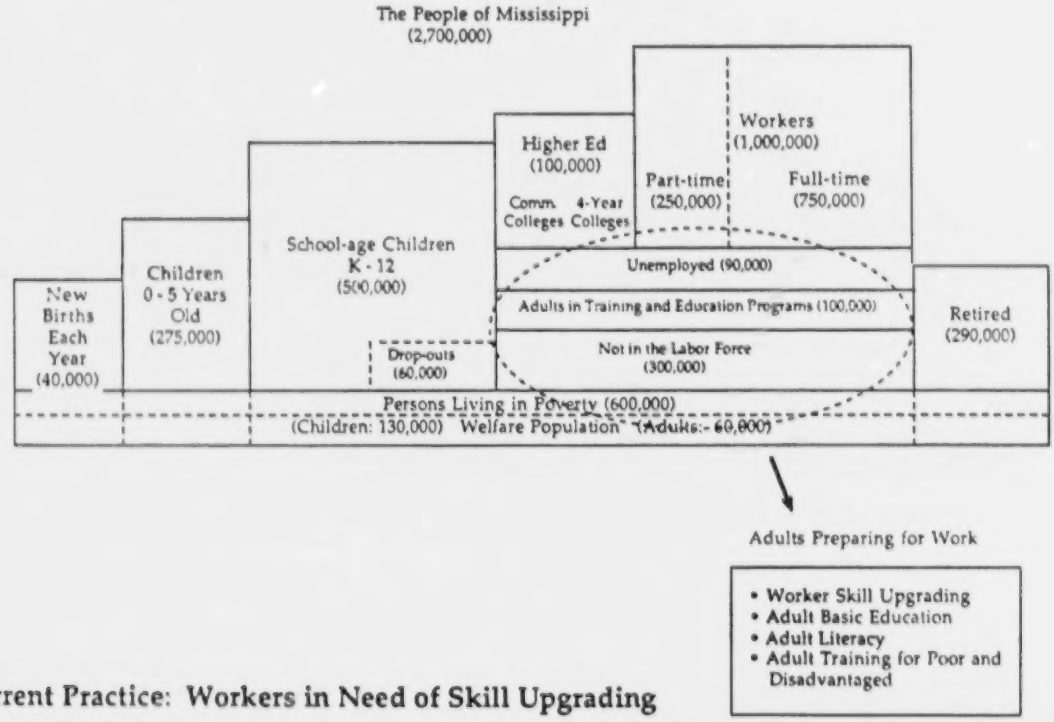
To meet these challenges we will have to have some high goals to shoot for. We will know we've accomplished something when:

- 9 out of 10 adults will be functionally literate.
- 9 out of 10 Mississippi firms will have well developed human resource policies and programs.
- More Mississippians receive GED's than drop-out of school.

- All Mississippi communities reach a threshold of literacy and are certified "Cities that Can Read".
- The Welfare Caseload is reduced 10%.

There are several overlapping groups of Mississippi adults who could usefully benefit from additional education and training in order to prepare for better jobs:

- Adults wanting basic skills in math, reading, etc.
- Adults wanting a high school diploma
- Adults on welfare or economically disadvantaged
- Adults on the job needing skill upgrading in specific tasks
- Adults wanting enrichment or continuing education
- Adults in the corrections system



Current Practice: Workers in Need of Skill Upgrading

In cooperation with the state's community colleges, DOE's 15 regional industrial training coordinators arrange customized training for employees of new and expanding businesses. Each year they spend over $1 million dollars to train 12,000 workers. Some individuals who participate in these programs are JTPA eligible. Industrial Coordinators have discretion to negotiate the respective contributions of employers and the state to this customized training. Industrial Coordinators, DED, and the Tax Commission also will begin helping firms take advantage of the new

25% employer tax credit for workplace literacy and basic skills training. Mississippi is the first state in the nation to offer such a tax credit.

The State Department of Education currently has a small federal grant ($350,000) for workplace training with a small number of companies around the state. The grant requires a workplace audit and a customized, often on-site training program is developed.

Private Sector Training: It is estimated that at any one time between 10-20% of Mississippi companies take advantage of the training services and facilities of Mississippi's Industrial Coordinators, vo-tech schools, and community colleges. This percentage may increase with the new tax credit. Our employer survey tells us, however, that firms trust and utilize private training providers such as equipment vendors, trade associations, and consultants more than public programs -- and they grade private assistance higher than public institutions.

Most training is done by Mississippi employers themselves. 85% of employers had provided informal on the job training. 61% of employers surveyed said they provided some form of formal training, and 75 percent of these relied on in-house staff and programs. Looking to public institutions, in the past 5 years 39% of employers said their employees had been trained at some time at a community college, 29% used universities and 4-year colleges, and 20% had looked to secondary vocational schools. 7% of employers had taken advantage of the state's customized training program through Industrial Coordinators.

Employers were not all satisfied with the training *opportunities* available to their employees through public or private institutions. Only 12% of Mississippi firms were happy with available offerings; over 45% were unsatisfied.

Despite believing that training was a very good investment, very few firms actually followed through in the form of devoting considerable time to worker skill upgrading, integrating new technology, remedial education, or job orientation. Only 28% of firms spend more than 20 hours per worker, per year on any of these tasks. Sales and technical staff got the most training per worker, management and laborers the least.

Current Practice: Adult Literacy/Basic Education

Mississippi has definitely got the message that there are lots of people who could benefit from basic literacy courses. With the state decision to allocate all JTPA 8% money for adult literacy efforts--new money ($2.6 million) becomes available to boost the current public and private efforts, (although JTPA funds can only serve the "economically disadvantaged"). Until this year, state sponsored efforts were confined to 23 local programs serving only 2,000 individuals. Many other private, church, and community literacy efforts have sprung up in the past several years and

coexist with state efforts. High drop-out rates and the difficulty of attracting those most in need plague most programs.

The current state gameplan is to fund worthy proposals around Mississippi--while targeting new organizational and financial attention on 3 pilot regions in the Delta, Northeast, and East Central Mississippi. The hope is to encourage new regional cooperation, innovation, and accountability in state funded and private literacy efforts. JTPA funds are to be phased out over three years to create self-supporting local efforts. If successful this approach will be expanded. To succeed will require close state collaboration with current local literacy efforts.

Largely federally funded *GED equivalency courses* have been run by the Department of Education at local schools, libraries and the like during available hours. Mississippi only matches 11% of federal money for adult basic education. Although as many as 20,000 people have been enrolled annually in GED classes, Mississippi has graduated only 7-8,000 individuals per year in recent years. With new federal regulations mandating adult education funds must be targeted on reaching hard to serve (0-9 yr of schooling) populations--a significant challenge remains for local adult education coordinators.

Community Education: School districts which can afford it are developing "community education" efforts which open up school buildings after-hours for literacy classes, hobbies, typing, computers classes, day-care, and other activities. Local promotion efforts recruit adults and young people for these offerings--and modest fees to cover teachers and materials are sometimes charged. Currently 25 school districts out of 152 have community education coordinators.

Current Practice: Adult Training for the Poor/Out of Work

The federally funded JTPA program serves approximately 24,000 economically disadvantaged adults and youths each year through three Service Delivery Areas PICs (Gulf Coast, Capital, and the Mississippi SDA). This only reaches a few percent of the eligible population in Mississippi. Nine thousand welfare recipients were part of these programs.

JTPA is a placement-based program, requiring certain placement rates among those served or positive terminations for youth programs. While Mississippi, like most states has met its placement goals, state efforts are underway to create incentives for the local PICs to target those hardest to place--but most in need. (Federal Legislation is currently proposed to combine JTPA and Voc-Ed monies and re-orient the programs to target hard to serve). JTPA makes special funds available for training dislocated and older workers. Mississippi's training efforts involved 2,500 dislocated and 1200 older workers last year.

The *Mississippi Employment Security Agency* runs the state Employment Service used by over 300,000 people. They placed 92,000 Mississippians in jobs last year. Most of the Employment Service clients are "walk-ins". Only 10-13% are UI recipients, less than 3% welfare clients, and roughly 22% were JTPA eligible. Local offices provide screening and assessments of job candidates. They refer JTPA eligible candidates to JTPA programs and run on-the-job training programs themselves, cooperate on WIN with welfare, and recruit for Mississippi's 3 federal Job Corps programs.

Welfare and food stamp recipients are referred to many adult training programs including JTPA, adult literacy, and GED, as well as welfare's own job development programs. The Food Stamp Employment and Training Program requires food stamp recipients to participate in job training, job development, or workfare programs, but over 90% of recipients are excused due to age, need to look after young children, and other criteria. The Welfare Department is also arranging its own employer connection meetings where local employers are encouraged to hire welfare recipients. WIN--a federally funded, customized job development program for welfare recipients run jointly by Welfare and the Employment Service operates in only 6 counties serving 4,000 people, due to funding cuts. Several self-employment projects for Welfare recipients are underway and if successful these pilots will be expanded.

Among all these programs to aid the disadvantaged the single biggest problem appears to be the lack of a coordinated set of goals and priorities and cooperation among state and local efforts to achieve those goals.

Many agencies, programs, and providers exist--they all compete for the same limited pool of largely federal funds. With federal JTPA money making up the largest part of funds available for adult education and training, community colleges, community action groups, and many other institutions and programs work to get a piece of the action. The quality of PIC oversight is hard to gauge -- those in the system will say it works well, critics contend we just don't know if most PIC funded programs are working.

Real and long-standing differences exist between different bureaucratic fiefdoms. For example, the Welfare Department currently is running its own employment and training programs for food stamp and welfare recipients partly because they claim to have gotten no service from JTPA and the Employment Service. Those outside Welfare complain about the lack of service Welfare delivers to its own clients and its unwillingness to coordinate activity. Getting the different agencies, each of whom has a piece of the welfare puzzle to act together will be a major undertaking, but one which can reap tremendous benefits for Mississippi's welfare population.

With 300 clients per social worker, Welfare (now Human Services) cannot provide the kind of service to all its clients in the form of assessment, referral and case management that is optimal. Tough choices about where to focus limited resources need to be made. Nor does JTPA, Welfare, the Employment Service, or any other agency have sufficient funds to help all welfare and economically disadvantaged clients. Better choices need to be made together about how to spend available funds, and all programs must be held up to close scrutiny of their actual performance.

The *Corrections* sytem, including inmates, parolees, and probationers totals 16,000 Mississippi adults. While it is estimated that up to 70% of prisoners can't read, write, or compute well enough to get a job, a small number of these individuals are able to take advantage of education and training programs. Literacy and adult basic education targetted at young offenders served 900 people last year. 14 community work centers provide supervised, unpaid work, counseling and training opportunities for another 900 carefully screened convicts. Finally, restitution centers provide a community based program of counseling, basic education, recreation, and religious services for 150 low-risk offenders.

BEST PRACTICES: STRATEGIES FOR SUCCESS

All states are grappling with the tremendous challenge of devising effective ways to boost the basic skills of the existing adult workforce and continuously upgrade worker's education in order to stay competitive. In both the nation and Mississippi, we face a special challenge to pull women and minorities into the economic mainstream. Our goal must be continuous improvement. Experience from Mississippi and the rest of the country offers some guidance about what works:

1. **The private sector needs to invest in the current workforce to stay competitive.**

2. **Adults will learn if learning takes place in a manner that reinforces self-esteem and self-worth and can be related to personal goals.**

3. **Assistance must be client-centered and "user-friendly".**

4 **Effective assistance involves mutual and clearly understood obligations.**

5. **United community action involving business, government, educators, human service providers, and citizens can deliver results.**

6. **The state can target areas and populations in greatest need and be a catalyst for effective local and regional action.**

1. The private sector needs to invest in the current workforce to stay competitive.

The companies that effectively invest the most in the continuing education of their employees are the most competitive --IBM, Ford, Motorola. There is no substitute for both direct investment by firms in their own workers, and indirect investment in the form of actively informing the curriculum, courses, and structure of education and training institutions. On-site, work-centered training programs provide real-world goals and a comfortable atmosphere for participants. Companies who take seriously their position on vo-tech and community college advisory councils can make sure course, class materials, and instructors are evaluated by standards of what will succeed in the work-place. Companies can develop quality workers for tomorrow through co-op, apprentice, and mentoring programs.

An example from Mississippi makes the need and the potential for private sector investments very clear:

SNAPSHOTS OF SUCCESS

Marks, Mississippi

BETA II, a maker of electronic assemblies for the Big 3 auto-makers in Detroit, is meeting head-on a direct challenge to the jobs of its 140 workers. Ford Motor--their chief customer, made the situation very clear to Beta and its other world wide suppliers--get up to a Quality One rating or we won't buy from you anymore. Beta II, competing with suppliers in Mexico, California, and around the globe, went to work training its workers in statistical process control, shop math, blueprint reading, communications, and management skills. Some employees went to local voc-ed schools to learn machine ship skills, others were enrolled in special courses on-site BETA II created with Northwest Mississippi Community College. Plant Managers went to advanced process control institutes in Michigan.

After all this, Ford still wasn't satisfied. According to Beta II's George Person, Process Control Manager: "We made their Q1 rating on points-- but they wanted to see a long-range plan for continuous improvement through ongoing training." BETA now is one of the first to take advantage of the state's workplace literacy efforts, and with the help of their local industrial coordinator, DOE staff, and community college they are putting together a continuing program. Person is confident they will make the grade: "We are in a gang war with companies from around the globe--and we are going to beat 'em."

- Some of the most competitive and progressive companies in the country are those that help their work-force stay happy, healthy, and be more productive by meeting the real needs of today's families. Merck Pharmaceutical, a hugely profitable New Jersey based firm has a conscious "family-centered" employment policy which provides flexible benefits, parental leave, and child care.

- Greico Brothers, an old-fashioned textile mill in Lawrence Massachusetts, cut down absenteeism and increased productivity among its predominantly female, minimum wage labor force by housing a day-care center on-site. Employees paid for half of the cost through a nickel an hour taken out of their pay.

2. **Adults will learn if learning takes place in a manner that reinforces self-esteem and self-worth and can be related to personal goals.**

People are proud, and hesitant to admit they need additional schooling or training. Effective techniques for teaching adults link training to personal goals (such as job advancement or the ability to read to children or read the Bible),and take place in a setting that reinforces a positive self-image. A recent survey of GED test-takers in Mississippi revealed that by far the most important reason given for taking the test was personal satisfaction and self-esteem, not economic gain.

Classroom settings are oft-times the worst place for adult learning; participants feel degraded. Also, many adult learners may have bad recollections of classroom experience. Alternatives should include literacy training at the workplace, the use of computers and interactive videos, or other means of creating an environment that is comfortable and dignified.

One story of how this can work comes from Columbus, Mississippi:

SNAPSHOTS OF SUCCESS

Columbus, MS

The Columbus Chamber of Commerce and local leaders did some research into the problems of their area. Adult illiteracy came up as number one, and a local group was formed and money raised to attack the problem. Based at the University for Women, the Greater Columbus Learning Center was established; computer equipment was purchased which could accommodate different types of literacy programs. Local schools help identify at-risk students and parents, local welfare agencies refer their

clients, the juvenile court system remands kids to the program. Radio, TV, recruiting at local employers, mailings sent home with children, among other techniques have built tremendous community interest and involvement. Curriculum manager Ellie Graham credits two key things for the programs success: "Computer training lets people say I'm going for a computer class. Being at a University boosts the prestige of the literacy programs. People feel good about going and aren't ashamed to talk about it."

- "Credentialing" adult learning that occurs outside of the classroom is another means of recognizing its importance and encouraging ongoing training. New York's Board of Regents is available to companies to test workers in various skills and can certify them as having skill equivalencies commensurate with those earned at formal training institutions.

3. **Assistance must be client-centered, and "user-friendly".**

Successful programs to train the disadvantaged and re-train workers provide personalized service for meeting real, often multiple needs. This means "invisible" inter-agency cooperation to meet individual needs. Clients can't be left to find their own way around a bureaucratic maze.

- The Massachusetts ET program, California's GAIN and other welfare- to-work programs upon which the Federal Welfare Reform is based, show that helping individuals surmount the real obstacles to employment such as lack of day-care, transportation, training, and adequate health insurance, can make it possible for even the long-term dependent to reach goals of self-sufficiency.

- A Northampton County, Pennsylvania program requires local cooperation among all human service providers--one common intake and assessment procedure among health, welfare, social service and employment agencies, and family centered case management.

- The new Michigan "Opportunity Card" is geared to provide "customers" of public education institutions and social service programs one user-friendly way to keep a record of personal skills, employment history, and career goals, and access additional services such as college courses, JTPA training programs, or job counseling services. Combined with a State Human Investment Council and Fund which unites Education, Welfare, JTPA, Employment Security, Economic Development and other agencies in common planning--it forces state and local agencies to set clear priorities and work together to serve the customer--whether a worker is looking for re-training, a young person is graduating from college looking for a job, or a welfare recipient is developing a plan for self-sufficiency.

4. Effective assistance involves mutual and clearly understood obligations.

Clients and service providers have reciprocal obligations. Individuals want to make a deal: "You help me and I will meet the goals and expectations we set up together."

- In St. Louis County, Minnesota, a poor, largely rural section of Minnesota's Iron Range, the growing number of welfare and general relief recipients--single parents, as well as unemployed young adults-- were given a chance to work for $5 an hour, building roads, reforesting timber lands, and developing recreation areas. Monies from Welfare, JTPA, and a small additional state appropriation were converted to a wage. Expectations were simple and direct--work four ten-hour days a week; show up on time for the bus each day or be fired. Local timber executives and social workers jointly ran the program, and helped place individuals in other jobs as they developed skills and experience.

- Successful welfare-to-work efforts build on these mutual obligations--they are not something for nothing, but combine real assistance for real needs--child-care, transportation, health insurance, with the full expectation that the individual will take advantage of this assistance to make it out of poverty--or lose benefits.

5. United community action involving business, government, education, human service providers, and citizens can deliver results.

The raw material of economic growth-- human beings, and the institutions to train and educate the workforce, aren't transportable. Communities who successfully identify what their employers need, what skills are currently lacking in the local work force, and resources they have or need to develop to meet this skill gap, can generate and keep good jobs.

Mississippi has many good examples of communities which are successfully meeting the needs of their employers and workforce, Tupelo being a well documented case. Another example is Oktibbeha County.

SNAPSHOTS OF SUCCESS

Oktibbeha County

Several years ago local leaders and business people identified adult illiteracy as a major community problem and raised money on their own to fight it. The community has organized adult education programs for 500 people using the resources and

assistance of the schools, churches, and newspapers. Schools in the County hired Dr. Mary Dorman as a community education worker in 1985 to orchestrate the efforts, and through her work and that of many others the communities have pulled together. Dr. Dorman reports a new project to work on literacy skills with mothers who are already paid by DOE to act as meal providers for other children: Dr. Dorman says: "I've lived here twenty years and never knew until recently that DOE had found these women--they need a family literacy program and we now know where they live."

6. **The state can target areas and populations in greatest need and be a catalyst for effective local and regional action.**

The magnitude of need among Mississippi's adult population requires the state to target resources and political clout and make both state and local providers of education and training develop accountable and effective programs.

- Pennsylvania's Ben Franklin Partnership makes state funds available to targetted regions that develop demonstrated linkages between education and research institutions and commercial ventures. The state approves proposals from local and regional "partners" that show workable plans for job-creating research, development, and business investment. The program has successfully worked to start business incubators and new companies which work closely with universities, colleges, and other institutions in developing new technologies, products, and processes.

- In Massachusetts geographic "Targets for Opportunity" were selected on the basis of high levels of unemployment and poverty, and the Governor personally chaired planning meetings of local leaders and agencies, made sure state agencies worked together on the region's problems, brought businesses into the areas, and targeted state resources for specific job training and other projects that the regions developed.

- In Texas the state offers incentives for local and regional cooperation in the form of increased state investment as localities and regions demonstrate a common organization and plan for economic development.

- While too early to tell if it's working, Mississippi's literacy efforts currently are attempting to use the carrot of additional JTPA funding to encourage more local innovation and accountability in literacy programs.

Recommendations

Using these strategies to help guide state and local planning for human investment can go a long way towards making our investments more effective. There are lots of "good ideas" that can be developed further by local and state leaders with imagination and leadership. We feel the following must be the first steps Mississippi takes towards building the strongest possible adult workforce.

I. Work-place Learning Campaign

Mississippi workers of today and tomorrow need at a minimum basic skills and literacy, and in many instances more advanced job specific skills. While better education for our young people is the long-term solution, Mississippi can't wait that long to get its workforce up to a world class standard. The workplace has proven to be the best place to provide training--and most of Mississippi's 270,000 functional illiterates and 130,000 additional non-high school graduates are "on-the-job" today. Mississippi employers want higher skilled workers. With limited state resources, the best way to quickly upgrade work-force skills is to start at the work site.

Mississippi must launch a private-sector led *Work-Place Learning Campaign* developed and run by Mississippi business and trade associations to persuade the 6,000 companies who employ more than 20 workers to test and train current workers on-site in basic literacy and skills. A campaign would need to have several key elements:

- Highly visible public call to action by Governor and Business leaders to send clear message--Mississippi is getting ready to compete--today!

- Set a clear and challenging goal to medium and large Mississippi employers: Line up 600 of 6,000 firms employing more than 20 people in Mississisippi each year over 10 years. Mississippi should target strategic manufacturing and service industries upon which it will build future growth--retailing and other sectors might be excluded.

- Put in place and aggressively market the recently enacted 25% tax credit for this purpose.

- State Human Capital Strategy Board in conjunction with private sector would develop common testing standard & curriculum for work-place literacy program. This testing instrument would combine basic 3 r's with "new" basic skills along the lines articulated in this report. Also would develop outcome measure to "certify" workplaces and credential individual employees who completed program.

- Employers have option of training in-house, through outside consultants, or using local institutions. If looking for help from local institutions, an inter-institution Strike Force would be created to field industry response team (Community Colleges, MESC, PDD's, Chambers, DECD, GED local coordinators, Industrial Trainers). Participating firm would contact one publicized source (perhaps an 800 number in conjunction with the Learning Line) so each community can respond by arranging work place assessment and basic skills training.

- For funding the participation of local institutions, a progressively increasing share of adult vo-tech funding would go to employer requested work site basic skills. Ultimate goal is to re-orient most short-term adult vo-tech courses -- created by secondary schools and community colleges and which result in a "certificate"-- with an employer-driven worker training program for the new certification measure. 30-35,000 adults each year participate in short-term vocational training, not counting JTPA. If over 10 years this many individuals received functional literacy training at the workplace, Mississippi's functional literacy gap would be almost closed.

- Encourage employers to condition continued employment and new hires on meeting a common skill standard.

- Given the limited resources of both Mississippi's public and private sectors, aggressive recruitment of funds for this campaign must be pursued from the federal government, foundations, and larger corporate sponsors.

Work-place learning is the easiest, cheapest, and most agreeable training venue for workers. It also is one of the best ways to upgrade the education and skills of Mississippi's working black and female population. Firms' satisfaction with training will increase as they create it themselves, using their own as well as public facilities and resources. Mississippi companies appear willing to make such a move. Over 50% of firms surveyed expressed interest in participating in a basic skill upgrading program, and an overwhelming majority of firms view training as a good investment.

II. Training Consortia

Mississippi employers express a dramatic need for better trained workers, but an uncertainty over how to accomplish this goal and a dissatisfaction with the range of current public offerings of assistance. Employers use and trust private training vehicles more than strictly public institutions. The solution

must be more joint training programs sponsored or co-sponsored by companies or trade associations.

Consortia can provide appropriate training in an efficient, cost-effective manner, particularly for smaller firms. Such arrangements begin to nurture the intra-industry communication and collaboration required to be competitive, and which is reinforced by the findings of the Economic Process Committee. It also could be a means to encourage minority owned businesses to work together with white owned firms.

The development of these networks can be assisted by the state:

- A team of state and local agency representatives (such as DECD, DOE's Industrial Trainers, PDD and Chamber Representatives) should target small and medium sized firms in particular manufacturing industries which exist in geographic "clusters" (furniture in Northeast Mississippi, Gulf Coast ship-building metal and fabricating industries, textile trades in various parts of the state).

- Recruit client companies through industry trade associations and personal visits. Assess common industry skill demands and training needs, and knowledge and satisfaction or dissatisfaction with local training institutions.

- Use leverage of state officials and concerned employers to encourage local training institutions to collaborate with industry consortia on rationalization of local training for their industry. Industry groups develop and review curricula that meets their needs, and create a new training program if necessary. Public institutions should have an incentive to market their services better to industry consortia, which can pay for services.

- Broker state JTPA, and vo-tech funds for training contingent upon a match by employer consortia.

TEENAGERS-- PREPARATION FOR ADULTHOOD

The years from the onset of adolescence to entry into the labor market or higher education shape a young person's ability to cope and perform as a contributing member of society. While continuing to demand that institutions of higher education deliver world class education, we need to do more for those who are falling out beforehand. We also need to make sure the bridges between high school, work, community colleges and universities are strong, and that all learning institutions are oriented outwards to meet the needs of individuals, communities, and businesses. Far too many of our young people are slipping through the cracks of the lifelong learning system. There are plenty of opinions about why this is the case:

> *"10th graders have no idea what they will be doing on the job--they need to see it first-hand."*
>
> *"We've got kids coming in looking for work who can't even do basic math."*
>
> *"We may have approved curriculum reform for vo-tech, but I bet no one's closed down one masonry or truck driving program yet."*
>
> *"Vo-tech courses in high school are repeated in Community Colleges"..."There are a lot of useless courses out there." "Instructors have no idea about what a business looks like today."*
>
> *"At the Community College we have to spend all our time making up for work not done in high school."*
>
> *"We need more family planning--but in Mississippi we don't like to talk about sex."*
>
> *"People just don't know the facts about teen pregnancy--if they did they would be screaming!"*

There are some things we do know about Mississippi teens:

- Mississippi still has an intolerably high drop out rate. Over 35 of every 100 students who enters the 9th grade in our state never graduate. Among children from poor homes more than one-half don't graduate.

- Youth unemployment remains extremely high in Mississippi--36% for 16-19 year olds versus a national rate of 16%. Teen unemployment among blacks reaches 50% in some areas.

- Mississippi has a disturbingly high birth rate among teens. The numbers got worse last year, not better. Over 20% of all babies born in Mississippi are born to teenagers (vs. a national avg. of 13%) or over 8,000 annually. In certain parts of the state close to 30% of all births were to teens. Many are repeat pregnancies. 64% of pregnant teenagers are blacks, 36% whites.

- As distressing are the more subjective indications that teenagers are in trouble, aren't motivated, inspired, or aware of opportunities to work and better themselves. In too many cases, Mississippi's young people aren't challenged, aren't provided role models and tangible hands-on exposure to jobs and the necessary skills to succeed at work. Too many lack appropriate guidance, course work, and training opportunities that will excite and prepare them for the real world. High School Vo-tech and technical training at community colleges, while improving in quality, consistency, and integration, still has a long way to go.

- While new mandatory test scores are rising, and are also helping to identify earlier those most at risk, successful remediation efforts to get young people up to speed are hard to find. Health curriculum, school nurses and other efforts to prevent health problems and teen pregnancy still are not in place in enough communities in Mississippi.

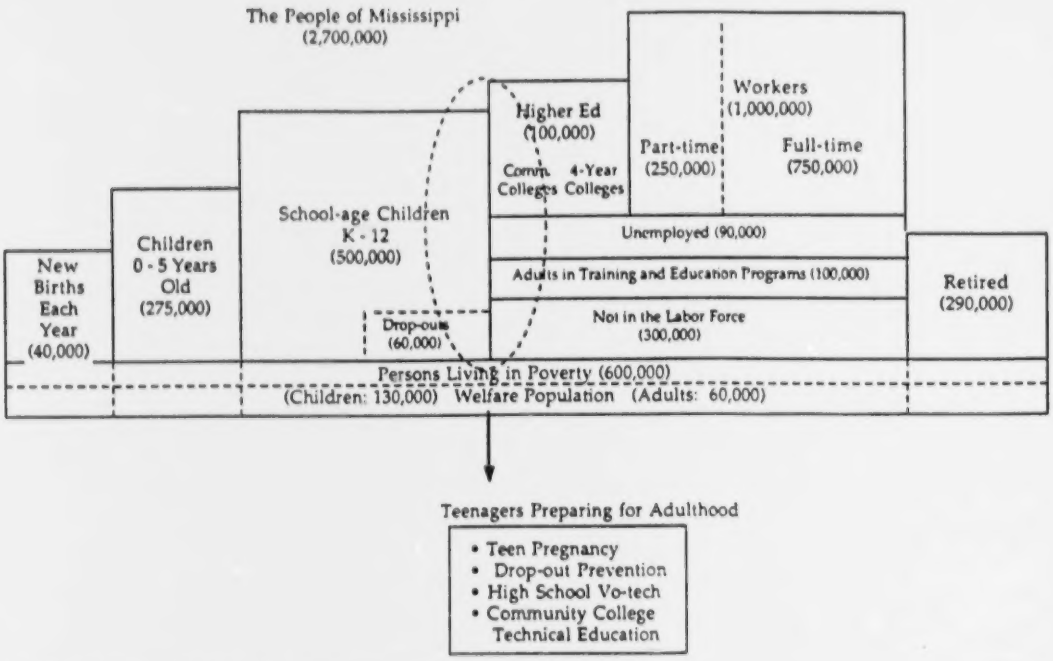
Goals--Benchmarks for Success

We will know we have made a difference in the lives of our teenagers when:

- High school dropout rate is cut in half
- Teen parenthood rate is cut in half
- ACT scores are up to national average
- College bound graduates increase 20%
- Minorities going on to college increases 30%
- All graduates of technical training are placed in jobs

In examining current practice and how to help our young adults be better prepared for work and adulthood, key issues to address include:

- Teenage pregnancy
- Drop-out Prevention and Guidance
- High School Vo-tech/Reform
- Community College technical training



Current Practice: Teenage Pregnancy

The costs to Mississippi of teen pregnancy are staggering. A conservative estimate by the Department of Public Health based solely on lifetime welfare, food stamps, and direct costs of support programs for children born to teen parents was $35,000 per child. That's $280 million dollars already committed every year to pay for the offspring of teen parents.

The State Board of Public Health carries the bulk of state responsibility for pregnancy prevention, providing family planning counseling and contraceptives through local clinics, running the school nurse intervention program and several in-school health and family planing clinics. Due to funding constraints, too many young people languish on waiting lists for clinical counseling and birth control services. While private doctors provide family planning assistance, the only private family planning provider in the state (Planned Parenthood) just opened in Gulfport. A health education curriculum has not been implemented in schools, although currently the "Healthy Children Make a Healthy Mississippi" Task Force is once again working to develop just such a mandatory curriculum, and persuade local education officials and communities to support funding to put it in place.

Current Practice: Drop-out prevention

Many locally engineered efforts are currently underway attempt to get drop-outs, particularly young mothers to "drop-in". The Department of Education has begun drop-out prevention pilot projects through local schools. Mandatory testing at grades 3, 5, and 8 has been initiated in hopes of identifying at-risk young people and

beginning remediation early enough to keep these young people in school. The functional literacy exam, now administered in 11th grade, identifies those who can't graduate, but perhaps not early enough to help them catch up and build the skills they need. In several areas JTPA youth programs target at-risk youth for special catch-up courses.

Current Practice: High School Vo-tech reform

Guidelines for curriculum reform in the Vo-tech system have been developed in recent years which include an emphasis on basic skills in the early grades, increased technical training, and a coordinated curriculum progression up the skill ladder in high school years. Outdated courses are supposed to be eliminated, and the local vo-tech board's relationships with local employers strengthened. It is unclear how aggressively curriculum and course changes are being made at the local level, replacing outdated courses for those with work world relevance. The system seems resistant to change; instructors and institutions often lack an understanding of the changing local labor market, and measures of "performance" in terms of job placements, or continuation to higher education, aren't available. Relationships between vo-tech instructors and courses and local employers still need strengthening. Considerable variation in terms of facilities and available courses exist within the vo-tech system.

Current Practice: Community College Technical Education

These regionally and community based institutions are a prime resource for meeting many of Mississippi's skill development needs. Community Colleges currently play multiple roles (over 1/2 of enrolled students are in the academic program, and they also house industrial training, JTPA, adult basic education and other programs) Too often they must help students "catch-up" with work meant to be completed in high school -- from 1/3 to 1/2 of all Community College students are enrolled in remedial courses.

60% of high school students who go on to college attend two year institutions, and enrollments in community colleges are up 20% over the past ten years. Community Colleges have purposefully been increasing the numbers of students in academic and technical courses, while vocational enrollments have fallen, in an effort to replace traditional vo-tech with full-time technical courses.

The degree to which Community Colleges effectively link their vocational and technical programs with high schools, universities, and the local business communities varies considerably by school. Instructors can tell you which of their students have gotten work, and where--but this information is not kept systematically all schools. We know Mississippi has some very strong and some very weak community colleges. Even with the formation of a new state-wide board,

as locally governed institutions, Community Colleges and their Presidents enjoy considerable autonomy. Lacking common performance standards, outcome measures, and faced with dramatically conflicting opinions and data, we could not clearly state if Community Colleges are delivering value for the large amount of taxpayer dollars they control.

There continue to be complaints that both community colleges and institutions of higher learning are not aggressive enough in developing coordinated technical curriculum, which links skills learned in high school, community college, and 4-year institutions in a clear progression.

Mississippi Community Colleges often resemble universities (with academic courses, dormitories, football teams) and debate continues over whether they could more usefully contribute to Mississippi's economic development by performing a niche role in adult remedial and technical education. Community Colleges contend that delivering high-quality academic courses and providing a means for many young people to transfer into Mississippi's Universities builds the support they need to play many other roles in the areas of economic development, workforce training, literacy, leadership training, and the like.

The appropriate role of Community Colleges is complex and politically charged. While attempting to come to grips with both the tremendous potential these institutions have and the concerns over mission and management that persist, we have not learned enough to make decisive judgements. We encourage Mississippi to continue to examine the role of Community Colleges, and hold them to high standards of performance.

BEST PRACTICES: STRATEGIES FOR SUCCESS

Given its size and resources, Mississippi devotes a very large amount of money to higher education. We must more closely scrutinize what we are getting for these investments, and ensure our Colleges and Universities become world-class. But too many Mississippi young people, often equally talented as their peers who go on to college, don't ever make it that far.

In devising successful strategies for assisting those young people who for a complex of reasons lose motivation, can't succeed, aren't ever challenged, or don't get the education and opportunity to realize their potential, several techniques do hold promise:

1. **Help young people focus on personal choices, personal responsibility, and decision-making.**

2. **Build self-esteem and peer support for constructive activities.**

3. **Identify at-risk youth early and deal with their needs in a comprehensive, client-centered manner.**

4. **Connect young people to adults and their community.**

5. **Connect young people to the world of work.**

6. **Encourage Math and Science literacy as a basic requirement for the future.**

1. Help young people focus on personal choices, personal responsibility and decision-making.

To have a second child is a choice even a teen mother can consciously make. Potential young fathers when confronted with their own responsibility and consequences of choices can respond. When given assistance in framing their life choices, young people can see how it benefits them not to drop out--but to make a plan for life.

- Schools can usefully supplement the health, family planning, and career discussions that aren't happening at home. In many cases, home is not a source of love or information on issues of concern. Most young people look to school for advice on career goals and options, as well as personal problems. School based health and family planning services succeed because they reach students where they "live" and discussion of sex can be had in the broader context of student's learning to make decisions and understand health and their own bodies. The School Nurse Intervention Program and the Jackson Hinds Comprehensive Health Clinics in schools both treat family planning in a broader context:

SNAPSHOTS OF SUCCESS

East Central Mississippi:

The School Nurse Intervention program is bringing needed health and family planning guidance to area junior high schools. A small number of nurses help identify a range of health needs and are able to communicate to young people the importance of making their own decisions and knowing the consequences of sexual activity. Where they have worked there appears to be an impact on unwanted pregnancies and sexually transmitted diseases. "They don't dispense contraceptives--just information, and help young people begin to discuss the issues", says Jane Lee of the Department of Public Health. The Department hopes to add more school nurses to the small number currently out there.

Jackson:
Jackson-Hinds Comprehensive Health Clinics in schools (7 high schools--1 new elementary school) catch many health problems among disadvantaged students. Started 10 years ago to identify health problems among high school athletes, the Comprehensive Health Clinics in local high schools have expanded to screen and treat health problems that go untreated for years in the poor neighborhoods where school-based clinics are targeted. Over the years standard health problems such as poor hearing, vision, and anemia that affect young people's ability to learn have been identified and treated by these clinics. They also have been instrumental in reducing unwanted pregnancies by providing accessible and private counseling and contraceptives. Dr. Aaron Shirley reports: "In the schools you've got a captive audience--and we catch so many things that aren't caught anywhere else--we're starting our first clinic in an elementary school this year to get further ahead."

2. Build self-esteem, and peer support for constructive activities.

Personal esteem and peer support can be an important element in effective counseling and guidance programs:

- South Carolina's Teen Leadership Institute takes teenagers from around South Carolina to a summer week-long retreat where they are schooled in drug, alcohol, and sex education counseling for their peers. Teen leaders return to organize peer counseling groups at their own high schools.

- Michigan's TIP program (Tuition Incentive Plan) offers disadvantaged students scholarships to state universities for those who excel in school. A similar effort run by philanthropist Gene Lang and the I Have A Dream Foundation "guarantees" the funds to pay for college for a whole class of young people at selected schools if they make it through high school with good grades. This program provides an adult advisor for each class.

  The experience of these programs has shown that when even the most disadvantaged young people have a goal they can see, and some support from adults in reaching that goal--they can succeed. Community or business sponsored education funds and foundations can provide similar financial incentives, recognition, and rewards for good performance.

- West Virginia's controversial new law requiring high school attendance in order to obtain a driver's license illustrates the dramatic effect of peer perceptions on teenagers. The law has dramatically reduced drop-out rates, because at that age being able to drive is of first importance. While the law's

constitutionality is still to be tested, and the "benefits" of young people staying in school just to be able to drive may be debated, the incentive works.

- We must also recognize the destructive effects of "tracking" young people into various "slots". We must not treat the distinction between academic, and "technical" or "vo-tech", as one between the best and the rest. In today's increasingly technical world, technical education is as valuable if not more valuable than more traditional or professional training. Quality technical training must be linked with real world needs and rewarded as such. Making vocational education deliver necessary skills is a continuing challenge, as is integrating high school, community college and higher education in clear progression of useful skills. Increasing the prestige and attractiveness of technical careers, particularly for minorities will mean dramatic changes. There are encouraging signs in Mississippi:

SNAPSHOTS OF SUCCESS

Tupelo:

"Vo-tech is dead!", proclaims Charles Chrestman--District Director at Itawamba Community College. Tupelo's schools and community college have made a conscious and successful effort to upgrade technical education and bury antiquated notions of vocational training. Years ago local leaders and citizens realized that education and training were critical to Tupelo's success. The Community Development Foundation was created to guide Tupelo's educational and economic development efforts. Getting direction from local employers about what skills were needed down the road, the local schools and Itawamba Community College raised money from the Tupelo community and outside sources, and working together replaced out-dated courses, facilities, and teaching methods with modern, forward looking facilities and curriculum. The result is partly responsible for Tupelo's economic success, particularly among manufacturing industries.

3. Identify at-risk youth early and deal with their needs in a comprehensive, client centered manner.

There are some good examples of how to reach at-risk young people in ways that help them stay competitive with their peers and keep their optimism about contributing to society.

SNAPSHOTS OF SUCCESS

Meridian:

Teen Learning Center: For almost 15 years, an alternative "school" for pregnant and teen mothers has been jointly operated by Meridian Community College and the local health department. Young women who otherwise might have dropped out of school permanently are given the customized and individual attention they need to set goals, learn parenting skills, and catch up on academic work in order to get back to high school. While only 20% of teen parents nationally finish school, 85% of young women going through the TLC have either finished or are in school now.

Testing throughout K-12 and holding teachers accountable for results will help identify those at-risk and create incentives for better performance. But testing alone won't work unless effective "catch-up" techniques are put in place. Mississippi still needs to put energy and money into bringing up to speed quickly those who fall behind. Computer-based, individually paced tutoring is one promising avenue:

SNAPSHOTS OF SUCCESS

***Gulf Coast*:**

Local programs such as the Gulf Coast PIC's JTPA-funded computer based remediation program is helping young people who are at least a grade behind advance a grade while they stay in school. The Gulf Coast Private Industry Council is funding a 7-school district computer-based remedial education program for high school students who are at least one-grade behind where they should be or who have failed the functional literacy exam. On the Gulf Coast, young people at risk of dropping out are able to catch up during the school year and over the summer by following the computer curriculum. PIC program manager John Bonner says: "Initially school administrators were skeptical of "outsiders" helping them out--now they love it. Part of the reason is money--kids who stay in school mean dollars to the school district". The Gulf Coast PIC is also starting a child-care program for teen parents, and operates a "Sentenced to Read" program whereby juvenile court judges sentence young offenders to learn to read as an alternative to state school.

4. Connect young people to adults and their community.

We can't leave our young people at school and assume they get the nourishment and challenge they need to become adults. Young people have a lot of energy which

if encouraged in positive directions can be a productive force for the community, help young people build confidence and skills, and feel they are a valued part of their adult world.

- Cities such as Seattle and St. Louis have consciously reached out to teenagers, asked their advice on what was right or wrong with their cities, and responded with specific, youth run programs. These ranged from recreational activities to crime prevention, to working on community building projects.

- Community Service/Conservation Corps: Several cities and states are organizing Youth Service Organizations and Conservation Corps as a way to give young people organized, supervised, constructive opportunities to develop skills and confidence. These include the Los Angeles Youth Community Service Corps, Vermont Serv, and California Conservation Corps. Maryland has taken a different tack, encouraging its schools to offer a community service elective.

- Local community education funds can offer incentives in the form of scholarship funds and recognition ceremonies and awards for achievement and community service.

- Schools, by opening after hours can sometimes take on the roll of "community educator" and community center, which encourage young people and adults to come together for enrichment, fun, and continuing education activities. In Jackson, Mississippi, otherwise empty school buildings are opened after hours for literacy, arts and crafts, typing courses and other activities which link young people, parents and the neighborhoods more closely together.

Another example of "community education" at work is in Hazelhurst:

SNAPSHOTS OF SUCCESS

Hazelhurst:

Spearheaded by charismatic school superintendent Dr. George French, the community has organized a full-scale assault on illiteracy and school drop-outs. The school is the hub of adult education classes, remedial classes, and an innovative day-care program which, as Dr. French puts it; "allows 'drop-out' teen parents to become 'drop-ins'". Local churches and newspapers contribute space and and help organize literacy classes. The state is looking to reproduce the school-based day-care and support services for young mothers through "Full Circle" programs in 4 other school districts. Dr. French also has a recipe for economic development: "16th section land--every school district has

it--some of it could be swapped or sold for economic development uses--we did it--you should look into it!"

5. Connect young people to the world of work.

If our young people can't see how the work they are doing now connects with their future--they won't understand the importance of learning, or get excited about their own opportunities:

- In Europe work-school co-op and apprenticeship programs are the norm. Building on a long tradition of guild-based training, teenagers as early as 10th grade work part-time for private employers. School course work is fully integrated with learning on the job site. Students prepare for professions such as finance and law, and more technical occupations. Teenagers can see clearly why they need to learn certain skills in school, develop confidence in their skills and a healthy work ethic, and have a tangible incentive to stay in school--a job at the end. Several cities across the US are developing large scale co-op and apprentice programs (Pittsburgh has the largest and most successful program) which link work and classroom experience, and provide an alternative to college preparatory work.

- Successful business-education partnerships like the Boston Compact provide young people with incentives to do well in school by guaranteeing them jobs when they graduate, and through summer jobs the opportunity for hands-on experience in the careers for which they are preparing.

- Technical training at both the high school and community college level must prepare young people for the real demands of real jobs. This makes it incumbent upon Mississippi educators to stay informed about the changes and expectations of local industry, and business men and women to help local training institutions tailor courses and curriculum to meet those needs.

Here in Mississippi, a well planned curriculum in technical training available at some vo-tech centers introduces young people to successive levels of skill and applicable learning that are useful to real jobs and higher education at a more advanced level:

SNAPSHOTS OF SUCCESS

Locations around Mississippi:

Two highlights of the new curriculum are Diversified Technology and Allied Health programs which provide an integrated package of courses for advanced competency in a range of technical and health professions. High school students in certain vo-tech programs are now

courses for advanced competency in a range of technical and health professions. High school students in certain vo-tech programs are now participating in an integrated, progressive curriculum to prepare for advanced work and education in the growing health and manufacturing technology fields. Starting early and giving students both the general basic skills and the specific technical knowledge they need to be prepared, these two curriculum "clusters" are showing the way for reform of traditional vo-tech education. They also begin to turn vo-tech into a progression of skills that can be upgraded at the community college and university level. Jimmy Harvell of Corinth, MS put it to a Senate Hearing: "Without Diversified Technology in High School, I would not have been able to learn as quickly at the college level."

- Teenagers must begin to learn early on that the society and economy they will work demands a global perspective. Mississippi can't neglect languages, world history, and international affairs in its primary and secondary education. Around the country companies like IBM, Digital Equipment and others are asking their employees to go to schools to teach and share insight into working in a truly international marketplace. Mississippi companies should consider the same.

6. Encourage math and science literacy as a basic requirements for the future.

The youth interested in math and science is often depicted as the "nerd" or introvert, which discourages interest in math, science and technology. In a 1985 national study, only 5% of all those surveyed qualified as scientifically literate -- less than in 1979. An interest in science and technology must be made more acceptable to all youth. And it is not just an issue for the high school teachers and guidance counselors to address. Attitudes towards science are formed in the first years of school. This means changing attitudes and methods throughout the education system, and in homes and communities. The Mississippi School for Math and Science is a step in the right direction. Additional ways of accomplishing this goal, included in the Southern Technology Council's Strategic plan for the South, *Turning to Technology*, include:

- Expand the role of the state's magnet Math and Science school to include curriculum R&D, teacher training, and broad outreach to make sure the entire state benefits.

- Informal education is one of the most effective means to attract youth to technical education and careers. In rural education, 4-H, and FFA were effective vehicles for informal science education. Large cities often have hands-on science museums, but small cities must find ways to bring science to life. Communities should consider buttressing these civic efforts.

- The Agriculture Education Supervised Occupational Experience model has been extremely successful in teaching rural youth how to solve technical and economic problems. The state and communities could encourage students to perform a supervised science experiment, chosen by the student and conducted out-of-school, but required for graduation.

- Many minority youth who do decide on technical careers find themselves at a disadvantage based on poorer preparation. Special programs to help make minorities make the transition from high school to university could be designed -- possibly as a one-year applied technology course in a community college with special tutoring in preparation for university level courses.

Recommendations

Mississippi cannot shrink from confronting the huge challenge of helping teenagers prepare for adulthood. This responsibility is one first and foremost for Mississippi parents and families. But we all know that strong two-parent families, good role models, and guidance just aren't there for a large number of teenagers. We must work together in our communities to fill this void and find ways of dealing with such sensitive topics as teen pregnancy, drugs, and family breakdown. We must help our young people conquer the scourge of racism by helping black and white teenagers to work together. While we create new jobs we must make sure our young people are ready to fill them and excited about their future. The following are a few ways to begin to address some of the most critical needs of Mississippi's young people.

I. **As part of Education Reform II, articulate clear measures of skills needed for "work-readiness" in the future and make sure all communities reach these standards.**

Education Reform II has set some ambitious goals including: all school students will be regularly assessed and performance improving, the drop-out rate will be reduced by one-half, and achievement scores are competitive with other countries. To reach these goals will require clear measures of the language and communication skills, quantitative skills, problem-solving skills, interpersonal/attitudinal skills, and job seeking/self-advancement skills students need to become globally competitive. It requires that resources be provided by communities and the state for giving those at-risk special assistance, and helping all schools get the facilities and learning technology they need to be first-class. It requires a new emphasis on accountability and performance in

II. Develop JOBSkills program of cooperative learning between local employers and local schools, as a means of strengthening vo-tech and transitional technical programs.

Vocational and technical education is increasingly important in today's technical society. America has done a disservice by treating vocational and technical education as the province of "nerds" and a dumping ground for slower students.

Studies have shown that vocational education can help young people, particularly the disadvantaged, stay in school longer and get better jobs. But the biggest gains from vocational education come when it is combined with on-the-job learning. Co-op learners are 12% more likely to remain in the labor force, 15% more likely to be employed, and earn 12% more per hour than their peers without on-the-job experience.

Mississippi has been working hard to upgrade its vocational system. The 1986 vo-tech strategic plan sought to increase technical programs, institute a new basic skills common core component in early secondary years, and decrease enrichment programs and outdated courses. It also sought to better judge performance by success at employability.

This plan has been implemented slowly and unevenly. Secondary vo-tech schools are viewed suspiciously by businesses, according to our recent survey. There continue to be mismatches between skills and trades taught in vo-tech schools and those required by businesses. Young people still don't have the clear incentive to do well and stay in school.

In order to provide these incentives, speed the transformation of vo-tech to a respected technical training track, improve accountability to local employers, and dramatically increase the number of young people reaping the benefits of complementary on the job/school learning, a new JOBSkills component should be added to the advanced skills programs of 10-12 graders.*

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*(This proposal follows closely the model proposed by Robert Lerman and Hillard Pouncy).

JOBSkills would involve several elements:

- a contract between student and employer for part-time, graded work.
- competitive entry requirements: employers select candidates based on previous school performance, aptitude, and interest.
- complementary skills training courses at the school.

Employers and students could make a contract in almost any field of work and study: technical, professional, medical, legal, accounting.

Employers would be responsible for providing supervised work experience, mentoring, and assessment of student performance. Employers would pay a minimum or sub-minimum wage. Employers also would be encouraged to provide equipment and technical assistance in designing in-school course work.

Schools would be responsible for guidance, screening, support, and transportation, developing complementary in-school education and skill development opportunities, and testing skills and competencies learned at the job and in-school.

Students would still be responsible for traditional course work in math, science, English, writing, etc.,. Their school schedule would be less extensive than college bound individuals allowing progressively more time on the job through 11th and 12th grades. Students would be required to exhibit good behavior, work habits, and make occasional reports and presentations to classmates on work experience and otherwise fulfill the terms of contract with employers.

The state would need to work with school districts on attendance waivers and curriculum adjustments to permit JOBSkills to work. The state would also need to assist local districts with the cost of the program, working through the PICS to allocate JTPA youth funds, and redirecting Perkins Vo-Tech monies to support this component. The state would also need to aggressively monitor the local programs to ensure that the program was teaching real skills and not becoming a subsidy for low-cost, dead-end jobs.

If fully developed after several local pilots a JOBSkills track could begin to replace traditional vo-tech at secondary and post-secondary level, provide real incentives for young people to do well and stay in school, and prepare a future work force that was motivated and skilled as never before.

Employers would get better trained and motivated workers, and develop a more productive relationship with local education institutions.

Cities such as Pittsburgh have had tremendous success with work-based cooperative learning. No state has tried it on a large scale. For Mississippi it provides a real opportunity.

III. Launch Statewide Teen Pregnancy Prevention Effort

Reconstitute Governor's Task Force on Adolescent Pregnancy--which would help identify communities most in need of intervention. State would continue to expand School Nurse Intervention Program to schools with highest incidence of teen pregnancy, and work hard to encourage communities to adopt and pay for new health curriculum. State should also ask schools to work with local health clinics to provide health counseling and family planning services on a timely basis.

Use community development efforts of Community Partnership and other community based organizations to bring churches, local leaders, and community groups together to make plans to reduce teen pregnancy. Many communities around the state have disturbing rates of teen pregnancy among both blacks and whites.

Expand Full Circle/Teen Learning Center models for helping young mothers and pregnant teens statewide, targetting to communities, schools, and populations with highest teen pregnancy rates.

IV. Establish Youth Community Service Corps as part of local community development efforts.

Service corps would design and implement constructive youth projects and activities. Would begin in-school peer drug, sex, and alcohol counseling. Service Corps would bring together black and white teenagers from public schools and "academies" and reflect the racial balance of the community.

Leadership training groups and alumni would take the lead in developing Youth Service Corps and establishing a statewide *Peer Training Institute*, bringing representatives from Local Youth Service Corps together annually for instruction in peer counseling techniques and special recognition ceremonies.

Youth Community Service Corps, or other youth and community group should develop a *Rural Youth Enterprise Program*. Schools, working with community groups would assist teenage entrepreneurs in developing local businesses to

meet local needs, and providing training and advice in developing tomorrow's entrepreneurs Mississippi urgently needs.

CHILDREN 0-4: PREPARING FOR SCHOOL

Mississippi's youngest citizens are our future. If we don't take care of the health needs and provide a good start in life to our youngest citizens, Mississippi in the 20th century won't prosper and we all will continue to pay for our neglect. Mississippi is a young state relative to the rest of the country and it has a relatively high birth rate--over 40,000 infants are born each year. Mississippi's children have lots of needs:

- Too many of our youngest citizens are born into poverty. Nationally the poverty rate for children is bad enough at 20%. In Mississippi, it's more like 40%. With one of the lowest welfare benefit levels of all the states, and limited assistance in the form of housing and other family needs, Mississippi's large population of poor children live in unacceptable conditions. The health and welfare of these children, which adversely affects their future ability to learn, is one of the most serious obstacles to Mississippi's future economic growth.

- Often these children are the result of an unwanted teen pregnancy. Mississippi leads the nation in the numbers of births to teens, and the costs to Mississippi in the form of government support for these children and their mothers are staggering--$35,000 per child over 20 years or $280 million each year is spent to support these children.

- While improving, in key health measures such as infant mortality rates (as high as 18/1000 in some areas), low birth weights, and numbers of mothers who receive inadequate pre-natal care, Mississippi still rates near the bottom nationally. Only 69% of two year olds are properly immunized. These aren't just statistics which concern the child's family. As taxpayers, we all pay for the damage.

- Early childhood education, while dramatically improved with state-wide kindergarten programs, is still the exception rather than the rule for most Mississippi children. While Head Start programs are extensive, reaching 19,000 children all over the state--they by no means serve all those eligible, and fewer than 1 in 5 of Mississippi's children get any organized pre-school education. Lack of child care and early education and child development assistance, particularly in rural areas, places barriers between parents and useful work.

The people of Mississippi understand the problems young children and their parents face:

"Mothers too often have to face the choice of going to work for several hours and spending everything they've earned to pay a sitter--or leaving the children alone.....They choose to leave them alone."

"Legislators think if they just appropriate the money to the State Board of Health, the problems will go away.--we need health to start at the community level."

"People think it's just blacks having all these babies."

"If we just showed people the infant mortality rates in their own towns--they would be shocked."

"We are moving towards early childhood education--but slowly, we just did kindergarten."

"Head Start is great"...."Head Start is as good as the local people who run it"..."Head Start needs looking into."

To move ahead in meeting these challenges we once again need clear ideas of how to measure improvement.

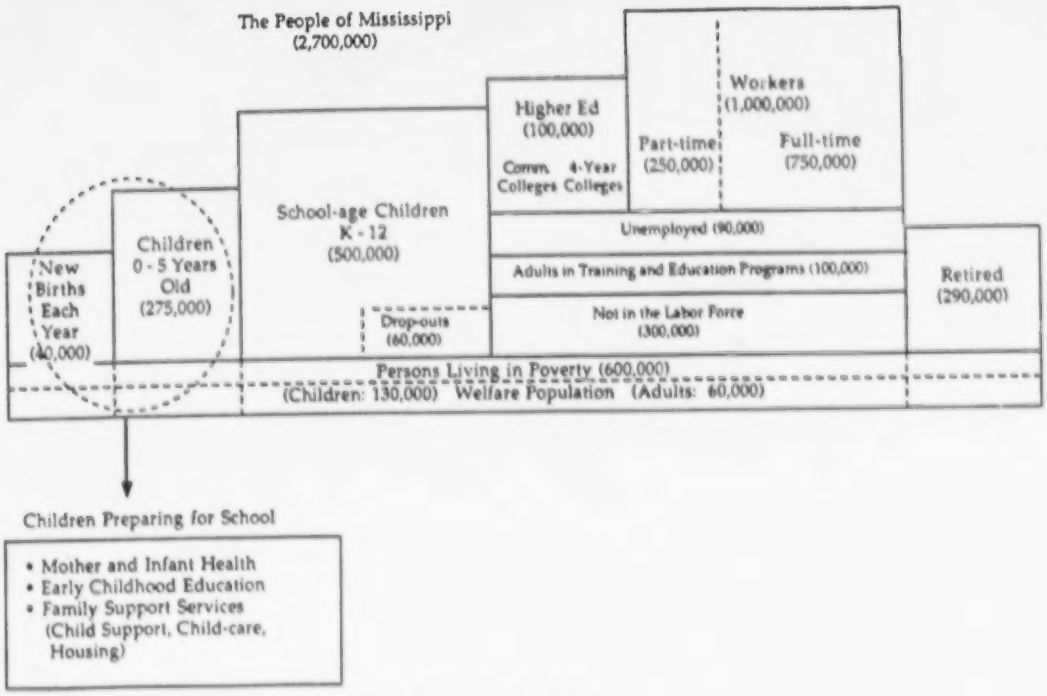
Goals and Benchmarks for Effective Action

We'll know we've had an impact when we meet these measures of performance.

- Continue infant mortality rate reductions to 10/1000-- other targets by regions.
- Reduce low birth-weight babies to 8%--other targets by regions.
- Double child support enforcement collections.
- All at-risk mothers have access to pre-natal and perinatal care.
- Help Head Start and early childhood education programs reach 90% of eligible at-risk children.
- Expand number of employers offering day care for workers by 500.
- All children are fully prepared for kindergarten.

To meet these goals we must see that our children get effective assistance in several key areas:

- Mother and infant health
- Early childhood education
- Family Support Services including Child Support, Child Care, and Housing



Current Practice: Mother and Infant Health

Providing for the basic health needs of our youngest citizens is critical. The Board of Public Health through its county health clinics provides the bulk of public health services to mothers and young children including pre-natal, maternity and early childhood immunizations and checkups. Eighteen thousand women get their maternity care through Public Health. Most come to public health because of poverty. Medicaid pays for 15-16,000 of these women. An estimated 4,000 more women are eligible who aren't served. The federally funded WIC program (Women, Infants, and Children), which provides supplemental nutritious foods to pregnant women and infants, reaches 62% of the eligible population. Eighty percent of all immunizations are done through public health facilities.

Mississippi is taking concrete additional steps to provide adequate health care to its youngest citizens before and after birth. The State is currently implementing the HIP program (Health Improvement Plan) recommended by the Governor's Task Force on Infant Mortality. The plan has several chief components:

- Expanded Medicaid eligibility to 185% of poverty level for mothers and infants to one year--(100% of poverty for mothers to 5 years),
- Adequate Medicaid reimbursement for doctors performing maternity and pediatric services,
- Regionalization of health services,

- Peri-natal high risk management program--case management for at-risk mothers.

The result if funded and implemented should be affordable and accessible basic health services to all Mississippi mothers with infants.

Current Practice: Early Childhood Education

Mississippi has made dramatic strides forward by increasing early childhood education efforts with the implementation of state-wide kindergarten programs. These programs involved 37,000 5-year olds last year. Headstart constitutes the bulk of other early childhood programs, involving 19,000 kids last year through 300 local centers in all 82 counties. It includes health screening, nutrition, and family counseling services. Headstart enrollments are down in part due to funding cuts, but much of the drop is the result of kindergarten enrollments.

Several innovative new family literacy programs involving mother/child independent and group instruction such as "HIPPY", "PACE", and Federally funded "Even-Start", are underway in Mississippi communities. While still limited in scope, these efforts show great promise in helping disadvantaged mothers and their children develop skills and confidence.

Current Practice: Family Support Services including Child Support, Child Care, and Housting

Children require a household that can provide for their basic needs and preserve a safe environment. Included in indicators of the adequacy of family support are household income (including child support), day care when parents work, housing, and attention to special needs such as disabilities or abuse in the home.

130,000 Mississippi children live in welfare households and two to three times that number live in poverty. Less than 28% of very low income families receive housing assistance. Obviously children born to young parents or lacking a two parent family are most at risk. Here Mississippi's high rates of teen parents and single parent households are a major concern. Only 31% of Mississippians below the poverty line receive AFDC. The monthly benefit (app. $110 for mother of 2) is only 20% of average personal income and ranks 49th out of 50 states. A typical package of benefits for a mother of two in Jackson might include:

$110 AFDC benefits
$230 Food Stamps
$ 10 Energy Assistance
$118 Medicaid Health Benefits.
$448 Total/month

Mississippi's welfare case workers carry the highest case-load in the country--298 cases per worker in 1988!. While they deliver a variety of support services geared at helping young children of welfare clients, including arranging transportation and child-care, protective custody, preventing abuse, counseling, etc..., they are constrained by both time and available dollars. They barely scratch the surface of these needs. Federal monies fund roughly 80% of these support services.

Responding to new federal legislation, stepped up *Child Support Enforcement* efforts in recent years have netted close to $19 million dollars in delinquent payments but there are millions more that could be collected. Currently over $3 is recovered for every $1 spent.

The *Governor's Task Force on Child Care* estimated that 110,000 children with working mothers were not in licensed child care, only 2% of children who qualify for federally subsidized child-care receive this care, and child-care slots generally are expensive and concentrated in urban areas-- meaning significant shortages in rural communities and smaller towns.

Mississippi spends no state money on child care. Most of the available funds come from federal social service block grant monies made available to Welfare and other departments. The Governor's Office of Children & Youth is working to develop acceptable and consistent licensing practices for child-care providers, and developing private-public partnerships to create more child-care slots. A child-care referral network has been created through the Mississippi Employment Security Commission.

Mississippi is also under pressure to develop a federally mandated action plan to assist the 2500 children with disabilities obtain the care they require.

A recent *Governor's Task Force on Housing* found significant disparities in the quality of rental and owner-occupied housing among Mississippi communities. 45% of rental housing is possibly substandard--ranging from 28% in some counties to 65% in other areas. Up to 26% of owner occupied housing in some areas was deemed sub-standard. The home environment for poor children is of particular concern. 50% of poor households owned their own homes--but 11% of these lacked plumbing or had more than one person living in a room. Of the 88,000 poor households who rent, a full 21% lacked plumbing or are overcrowded. Furthermore, most of those households who qualify for housing assistance don't get any help--this number could be as high as 96,000.

The Governor's Task Force made a series of recommendations, some of which have been implemented, to deal with the serious problem of inadequate shelter for Mississippi families. The Mississippi Home Corporation has been founded to provide resources and technical assistance to communities and non-profit groups in

developing housing for low and moderate income and special needs populations. Several local public-private initiatives are underway to develop affordable housing. The state and communities must continue to move aggressively to implement the recommendations of the Task Force and find innovative ways to provide quality housing for all Mississippi citizens

BEST PRACTICES: STRATEGIES FOR SUCCESS

What's happening for Mississippi's youngest citizens is good, but it's not enough. Mississippi doesn't have the time to change slowly if it is to move forward. We must look at efforts already underway in Mississippi, and elsewhere that work for young children and develop them across the state.

Experience in helping our youngest citizens in Mississippi and around the country teaches us several lessons and reveals workable strategies for effective assistance:

1. **Comprehensive, inter-agency, client-centered approach targeted on the most vulnerable mothers and children is most effective.**
2. **Community based, flexible programs can meet multiple needs of parents and children.**
3. **Successful early childhood development programs build on and strengthen the family.**
4. **Reinforce the fact that having children involves real responsibilities and obligations.**
5. **Employers have a responsibility to assist families with young children to cope in a changed world of work and family life.**
6. **Increase investment in early intervention.**

Everything tells us start early. You can tell who will drop-out by 4th grade. Kids who remain at a disadvantage will strangle Mississippi's future, no matter what economic development steps are taken in the next 10 years. If we don't help now these children will never be good learners or effective workers. Its more then these children's futures that is at-risk -- its Mississippi's future.

1. **A comprehensive, inter-agency, client centered approach targetted on the most vulnerable mother and child is most effective.**

   Agencies and providers who combine forces and work together with at-risk individuals--meeting multiple needs through a single, comfortable relationship can be most effective. A good example is the Peri-natal High Risk Management Program--part of the Health Improvement Plan recently passed by the legislature:

SNAPSHOTS OF SUCCESS

Key to the HIP program is the Peri-natal High Risk Management program--screening high risk mothers for special interdisciplinary case-management by health service professionals and social workers. If the Tupelo pilot project is indicative, then it has tremendous potential for providing the "client centered" approach needed to be effective. Mothers giving birth are assessed for risk factors that might jeopardize their newborn (poverty, history of family violence, specific health hazards) and a case-working team of health and social service professionals is assigned to make sure the mother and infant follow through on continuing health and family needs. The cost of the case workers is to be made up by the new Medicaid federal match money available for such mothers. Many more mothers than expected are at risk. Nurse Connie Arrington: "We expected 25% of mothers to screen-on as at-risk--we're getting 50%!" Tupelo's Public Health officials are also beginning a volunteer counseling program for new mothers called HUGS--which helps new parents take care of their babies appropriately.

2. Community-based, flexible programs can meet the"multiple needs" of parents and children.

To be successful programs must have the support and investment of parents and be tailored to both their needs and the needs of their children

SNAPSHOTS OF SUCCESS

82 Counties:

In Mississippi Head Start works because it is community run and organized; local people care about it. Parents are involved--and learning becomes a participatory, family activity--while it also meets parent's need for "day-care". Head Start identifies and treats multiple needs in one comfortable environment--screening for health problems, nutrition, family troubles--and making sure problems are followed up with attention. As Grace Simon of the Jackson Clarion Ledger recently wrote on Head Start's 25th birthday: " Born and raised dirt-poor...I saw poverty overwhelm and strangle my four brothers and older sister..... Head Start paved the way for me to get into school....The teachers told me I could succeed.."

3. **Successful early childhood development programs build on and strengthen the family.**

Effective learning occurs for both parents and children when the importance of self esteem and the appropriate, nurturing context of the family is the foundation of the program. In Arkansas and now in Greenville, Mississippi, the HIPPY program is a model of how both parent and child benefit, and families are strengthened. In HIPPY it is assumed 1) that parents *can* teach and be responsible for their children, no matter how poor their own education may be, and 2) creating a positive environment for learning *within the home* and continued positive interaction is the biggest contribution outsiders can make to a child's development:

SNAPSHOTS OF SUCCESS

Greenville:

Adapted for Mississippi from Israel and Arkansas, the HIPPY plan of early childhood education in the home by the child's mother is being developed by community action groups with state assistance. Welfare recipients and disadvantaged mothers and their children are recruited and tutored by their neighbors. The mothers and their child or children then embark on a two year interactive learning curriculum. The program helps both mother and child to develop better skills and self-esteem. Gwen Lynch--who bangs on doors in Greenville to recruit poor women--explains what happens with HIPPY: "Some of these women were living in filth--wearing their housecoats all day, not thinking they could do anything. By showing them they could teach their child, they got their act together and starting caring about themselves and their children."

- In Missouri, "New Parents as Teachers" operating through local school districts provides first-time parents and their children, from all backgrounds, with services from the third trimester of pregnancy until a child is three years old, including monthly meetings of parents, home visits by parent educators, health assessments, guidance on child development, and a Parent Resource Center. Originally piloted in three school districts, the program has proved so successful that the legislature has voted to extend it statewide.

- Minnesota's Early Childhood Family Education Program is a state funded effort which gives interested communities help in setting up a range of services and activities for parents and children from birth to kindergarten. Each program is locally run and directed by an advisory council made up mostly of parents. The biggest benefit, evaluators say is strengthened families and increased parent participation in school that continues into later years.

4. **Reinforce the fact that having children involves real responsibilities and obligations.**

   - Fathers must assume responsibility for their actions and understand the consequences. Effective child support enforcement, like Wisconsin's law where a percentage of father's pay is automatically deducted, can be a persuasive deterrent to having unwanted children and a means to ensure a minimum support level off the public dole for children and their mothers.

   - A Marian County, Indiana teen parenting program allows young fathers, under court supervision, to make a "contract" with the mother allowing part of their support payments to go towards education and training they enroll in themselves, in order to boost their own future earnings potential.

   - Mothers also have a responsibility to make choices on behalf of their children--eat the right foods, refrain from smoking, drinking, and other drug abuse, get check-ups, teach their children, get off of welfare. When encouraged to see the consequences of their actions and the choices they do have, parents can and will respond.

5. **Employers have a responsibility to assist families with young children to cope in a changed world of work and family life.**

The days of the stay at home mother and the two parent household as the norm are over. Nationally 62% of mothers with children 3-5 are employed. In Mississippi, 63% of mothers with school age children work outside the home. For women on welfare with young children, the single biggest obstacle to employment is the lack of child-care. Employers can help families cope by providing child-care, flexible hours, parental leave, and comprehensive health benefits.

6. **Increase investment in early intervention.**

Research shows $1 invested in pre-natal care saves $11 down the road. $1 invested in nutritious foods for mothers and their children saves $3 in health costs. $1 in immunization saves $10 in treating a communicable disease. Head Start participants do markedly better in school and in life than children who do not have the experience. They are twice as likely to be employed, and 50% more likely to finish high school. One dollar spent for Head Start is estimated to save $7 dollars per child in foregone remediation and special assistance.

The pay-offs from early investment in children are huge, but they are not evident until much later. Where enough time has elapsed to make a judgement the results are startling:

- The Perry Pre-School Program in Ypsilanti Michigan enrolled low-income black children with low IQs in a two and a half hour daily pre-school program, coupled by staff home visits to work with mother and child. The last evaluation in 1984 revealed that at age 19 participants had fewer school absences and higher grades, a higher high school graduation rate, higher employment rates, lower pregnancy and birth rates for young women. The estimated cost-effectiveness of the program was a $7,000 per child savings for the public. If we added only one thousand at-risk children to the 19,000 now served by Head Start we would save Mississippi $7 million dollars.

Recommendations

These techniques and models can be used to build a whole series of specific recommendations and better programs. Much is already being done throughout Mississippi. We all share a special responsibility towards our youngest citizens, and must do more as parents, educators, state and local officials, and members of our community to ensure all children get off to a good start in life.

We propose the following key steps:

I. **Help communities reproduce successful "family literacy" and locally-based early childhood education efforts on a massive scale.**

As we have seen, several communities are attempting to link local Head Start programs to broader community and family literacy efforts. These local/state initiatives such as HIPPY, PACE, "Full Circle", Even Start, and other learning programs for young mothers that are sprouting up around Mississippi provide promise of education to benefit both young children and disadvantaged adults in a way that strengthens the family.

To establish these efforts more broadly would mean:

- Provide state and community resources to Head Start and other early childhood programs in order to expand the number of children they serve, hours available, and strengthen these programs. Communities should target those children and parents most in at-risk, and not already involved in Head Start.

- State seed money, matched by local community as part of Community Partnership efforts.

- Incorporate parent/child education programs into community economic development efforts, using resources of schools, newspapers, and other

means to reach target participants. Bring black and white churches and schools together to craft common opportunities for children.

- Open school doors after school hours for extended day care and for extending Head Start hours and into summertime.

II. **Continue to fund expansion of early childhood health, education, and nutrition programs.**

The state needs to continue to invest in proven preventive strategies. It must set common goals for infant health, nutrition, and early childhood education and coordinate state human service and economic development providers at the local level to help meet these goals. Infant mortality rates have dropped in recent years, thanks in part to public awareness and increased investment. The HIP program for pre- and perinatal care promises to reach most at-risk mothers and infants if funded. Keeping public attention on continual reductions on key indicators of infant health and welfare will keep dollars flowing, and public and community involvement high.

III. **Implement welfare reform to encourage transition to work and self-sufficiency;**

Allocate funds to provide necessary child-care, training and transportation to help the welfare dependent secure employment. Expand self-employment and entrepreneurship pilot projects for welfare recipients. Focus resources to foster self-help among long-term welfare recipients. *The basic benefit over time must be raised to protect health and well-being of children.*

I V. **Expand and publicize child support enforcement efforts.**

There is no excuse for the taxpayer paying to maintain mothers and children when an able-bodied father is alive. Mississippi should implement mandatory pay withholding, move to publicly arrest and prosecute delinquent fathers, and launch an aggressive public relations campaign to enforce child support payments and deter unwanted pregnancy.

V. **Continue state efforts to develop acceptable day-care standards and develop public-private partnerships to provide more day-care slots.**

Companies can pool their resources and ask their employees to contribute towards affordable day-care.

THE MISSOURI CHALLENGE

Policy Report of
Jobs for Missouri's Future

January 1991

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Jobs for Missouri's Future program is sponsored by the State of Missouri, the U.S. Department of Labor, and grants from private sector sponsors in the State of Missouri.

Dear Fellow Missourian:

> ***"If Missouri is to compete in a new knowledge-based and skill-based international economy, it needs a world-class workforce. The challenge to firms, workers, state and community leadership is clear: build better jobs by building better skills."***

That statement represents both the beginning and the conclusion to *The Missouri Challenge*, the policy report issued by Jobs for Missouri's Future. Governor Ashcroft appointed our twelve member advisory board in 1989 to develop a long-term strategy to improve Missouri's economic prospects by improving the state's workforce preparation system.

To aid our efforts, we held regional congresses across the state, involving hundreds of business and community leaders. We surveyed more than 8,000 Missouri employers and hundreds of Missouri workers. We conducted group discussions with Missouri citizens, and we met with a wide range of community, business and labor leaders.

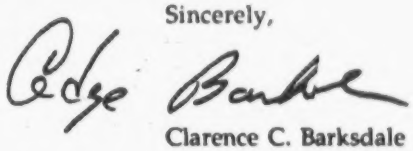
The Missouri Challenge analyzes our current competitive posture in a new and quickly changing economic landscape. We candidly assess the problems and promise for Missouri businesses, workers and government to compete in a world where the 'thinking' part of our jobs is the coin of the realm in a new economic order. We offer a vision for a bright future based on better skills for all. We suggest several concrete initiatives to achieve this vision. Our action plan challenges all Missourians to:

- build businesses with a 'high-performance' operating profile throughout Missouri industry--a work style that demands more of people and makes the highest use of new technologies to develop products and services;
- expand the constituency for lifelong skill development to close existing skill gaps in the workforce and establish a culture that supports continuous learning; and
- create a market-driven workforce preparation system that has clear goals for its users and provides accountability to its customers.

Our work is to carry these messages across the state--to the boardroom, the shop floor, our communities, and into the halls of government. We all have responsibilities to meet *The Missouri Challenge*. None of us can hide from the global economic realities that are creating such tremendous change in the lives of Missouri businesses and families across the state.

The Jobs for Missouri's Future Advisory Board, which I have had the privilege to chair, will be meeting, speaking, and visiting with Missourians to promote the changes outlined in our report. We will be urging new ways to shape a strong economic future for all Missourians. We welcome you to join in this important effort.

Sincerely,



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THE MISSOURI CHALLENGE

Policy Report of
Jobs for Missouri's Future

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THE MISSOURI CHALLENGE

Executive Summary

Missouri's workers and employers each see a different piece of a larger puzzle that is Missouri's changing place in the global economy. It is clear that many workers experienced economic dislocation, as jobs we came to rely on disappeared overnight because someone else could do it cheaper. It is equally true that many employers face urgent workforce needs as they struggle to be competitive in a marketplace that requires, as never before, high quality, flexibility, and innovation. Missouri cannot and does not want to regain the jobs that rely only on low-wage, low skill labor—those jobs don't pay enough, given global competition, to support a family. Missouri *does* want to create and attract jobs that depend on high-skill, high wage labor. These jobs *can* support a career, a family, and a community.

If Missouri is to compete in a new knowledge-based and skill-based international economy, it needs a world-class workforce. The challenge to firms, workers, state and community leadership is clear: build better jobs by building better skills.

One way to think about this challenge is as follows: jobs that rely on high skills will be the jobs that pay a decent wage in the world economy of the future. These jobs will go where the people with the skills are—whether it be Japan, Germany, North Carolina, or California. *If Missouri wants these high-paying jobs, it must prepare its citizens for them.*

Virtually every job will be affected to some degree by new technologies, new ways of organizing and managing work, or new ways of serving customers. Every Missourian must think about how he or she will relate to a life of continuous change.

The challenge to Missouri firms, workers, state and community leaders, is to build the foundation that will develop a high performance economy—an economy that depends on high skills and produces goods and services that earn a good return in the world marketplace. In this context, the job growth in the retirement industry, health, and tourism-related fields in much of Missouri is helpful but not by itself enough. Missouri must focus on higher-valued exportables, goods and services that are shipped to or performed for people in other states and other countries. This strategy is the best way to continue a growing standard of living, as dollars from state 'exports' flow into Missouri.

Missouri needs the contribution of all its citizens if it is to prosper. The state must make special efforts to ensure that the economically-disadvantaged and those who have fallen behind in the economy for any number of other reasons have equal access to learning programs that bring them back into the system.

Meeting the Missouri Challenge: The Jobs for Missouri's Future Action Plan

The Jobs for Missouri's Future action plan is a set of complementary initiatives designed to meet the objectives outlined in *The Missouri Challenge*.

First, **Missouri's employers must be encouraged to adopt a high performance profile**—combining the latest production technologies with new styles of work organization that demand higher skills on the part of workers.

Second, both the public and private sectors must **work harder to close the skill gaps that currently exist** in the Missouri workforce. These gaps will only widen as more firms get competitive. Policymakers, educators and corporate managers must pay increased attention to the learning and training needs of individual workers as more is expected of them in firms with a high-productivity profile.

Third, Missouri **communities must respond to the challenges of economic transition** in new and different ways. Citizens and workers must develop a far greater appreciation for continuous learning and skill improvement. A stronger education ethic must emerge—an ethic carried by school children and adult workers alike—that will demand more from leadership in both the public and private arenas.

Finally, and most importantly, **a workforce preparation system must be built to prepare all Missouri citizens for a lifetime of learning and re-learning**, on and off the job. The system must be responsive to the needs of students, workers, and employers, and accountable to the taxpayers and firms who support it.

The recommendations identified here follow this new path toward Missouri's future economic security.

1. ***Goal: Develop a 'high performance' economy by expanding private sector involvement in workforce development.***

   Recommendation: Missouri's private sector must take action to promote wider involvement of firms in workforce preparation and to help move industry on a faster pace toward a high-performance economy. Missouri companies can make better choices about training, and:

   - integrate human resource development into their institutional culture;
   - inform employees about changes in the organization that will have skill implications for the workforce; and,
   - take the lead in coordinating the provision of literacy training to those employees who need it.

   Recommendation: Meet the workforce needs of Missouri's small and medium-sized firms that are the key to economic growth and job creation.

   - Missouri can evaluate available small business loan programs to ensure that loan proceeds can be used to fund work training costs as well as capital investments;
   - encourage the development of internal training systems within small businesses by providing matching grants and no cost loans to establish or expand trade associations;
   - promote the expanded use of technology by small firms through developing flexible manufacturing networks and shared computer integrated manufacturing facilities; and,
   - use large firms to promote training along supplier networks.

2. ***Goal: Expand the Constituency for Lifelong Learning & Meet the Emerging Skill Gaps Among Missouri Workers***

   Recommendation: Communicate the message to all Missourians of the connection between education and economic security.

Recommendation: Increase the skills capacity of the existing adult workforce. Missouri should:

- establish an expanded job development fund that would be used to encourage greater amounts of training by Missouri firms;
- provide corporations with a credit on their annual state income tax liability for qualified training investments;
- develop a statewide technical assistance capacity to promote productivity improvement programs;
- refocus Missouri's 'second chance' training systems to be more responsive to the workplace needs of businesses;
- build a regional capacity for workforce skills training;
- implement a series of employer-based regional training coordinators; and
- use the Job Training Coordinating Council as a statewide workplace education and training panel to establish policy over all of Missouri's publicly-funded workplace based programs.

Recommendation: Develop an integrated work-related learning system for young adults—through a Missouri Youth Initiative. Jobs for Missouri's Future recommends that Missouri establish a Missouri Youth Initiative:

- a statewide, community-based system that formally links school with work in a way that would change the way young Missourians think about preparing for careers.
- the centerpoint of the youth initiative is a highly-structured program of on-the-job training supplemented by part-time attendance at a school-based or academic learning center.

3. *Goal: Create A Market-Driven Workforce Preparation System*

Recommendation: Create a Performance-based Workforce Preparation System. Establishing a performance-based workforce preparation system means creating a measuring rod that is useful in judging the outcomes of publicly-funded education and training programs. A performance measure for workforce preparation will:

- clearly communicate that graduates of publicly-supported workforce preparation programs from high school to customized training have achieved some definable measure of success, and provide a common way of assessing their achievements;
- tell employers and potential students which of the many different workforce preparation programs actually deliver on their promises; and
- push a diverse group of public institutions and programs toward a common goal and develop a means for achieving that goal.

Recommendation: Establish an administrative organization that assures the training system is market-driven and more responsive to employer needs. A central forum must be developed to establish and coordinate overall state training and employment policy, to establish common performance standards and reporting requirements among the state agencies, to review labor market trends in Missouri, and to review overall program per-

formance in order to provide advice and direction to state administrators responsible for program administration. To create this forum, Missouri should:

- **Recast the Missouri Job Training Coordinating Council as a 'human resource investment board'.** The Council should oversee Missouri's job training, work-related education, and employment system—in order to:establish state policy, develop common performance standards and reporting requirements among the various programs, and conduct comprehensive program reviews.
- **Create a unified system for case management at the local level for job training and referral.** Achieve a unified client delivery and management system that has common geographic boundaries, common planning cycles, and an integrated planning process among all state agencies involved in the delivery of training, education, and employment services. Develop a computer network linking the employment service, community colleges, vocational-technical schools, JTPA agencies and other training providers—as a system that provides comprehensive information on all education and training opportunities available in a particular area (costs, duration, occupation, potential earnings), and job vacancy information (occupation, starting salary, benefits).

THE MISSOURI CHALLENGE

If Missouri is to compete in a new knowledge-based and skill-based international economy, it needs a world-class workforce. The challenge to firms, workers, state and community leadership is clear: build better jobs by building better skills.

Firms in third-world countries, where production depends almost entirely on low wages, can make low value-added, mass produced goods cheaper than Missouri. What they *cannot* do, and what Missouri *must* do, is make high quality and more specialized goods and services—actions that depend on higher skills of workers. Missouri can succeed economically by creating a workforce preparation system that supports high performance firms in globally competitive manufacturing and service industries.

Missouri faces an additional burden. More than most other states, in the years ahead Missouri has to do more—with fewer people—if Missouri is to keep the kind of special life we have come to expect in the Show-Me State. Our population is growing older faster than almost any other state in the nation. This factor has many implications. It means that the workforce for tomorrow consists of people who are in the workforce today. It means that the fate of Missouri's economic future lies in the hands of the men and women who are already on the job today. But it also means that *every* new worker is a precious commodity, whose talent and skill must be encouraged and never wasted.

The time to act is now. As the *Wall Street Journal* recently reported, "many workforce dilemmas predicted for the year 2000 are already here—and most businesses are coping poorly." In Missouri, shortages of skilled workers already exist in key occupations, and the performance and the transformation of the education and training system must keep pace with the complex skill needs of Missouri firms.

But encouraging firms to act now to create high performance work organizations is only half of the equation. Missouri's workers of today and tomorrow must be persuaded that reaching for higher skills is possible and will be rewarded by better job opportunities.

Missouri offers many amenities, including a rich quality of life and strong close-knit communities in which to raise a family. Historically, a diverse economy always provided good job opportunities. But today, however, Missouri can't take these things for granted, and must work hard—every individual in every community—to realize the rewards of a better, more secure future economy.

Missouri: An Economic Crossroads

Missouri has always been the crossroads of America. The Farm Belt meets the hills of the Ozarks, the industrial Midwest meets the sparsely settled plains states. And for generations Missouri has benefited from being an economic as well as geographic crossroads. Large scale manufacturing firms, family farms, banking, finance, and health care industries, retirement communities, and world class universities all have their place in Missouri's varied landscape—and Missourians have long enjoyed a good standard of living and strong families and communities because of it.

As a diverse state, both economically and politically, the tug and pull of divergent economic forces have shaped the way Missourians view the world. Kansas City and St. Louis can seem worlds apart—as different as the rich farmland running north to Iowa is from the Ozarks, or the flat bottomland of the Mississippi Delta is from the high rises and office parks of Kansas City and St. Louis. In each Missouri community we still feel 'separate' from other parts of the state. Yet, in talking with

Missourians across the state, it is clear that we really value the same things. We place special pride on a high quality of life, our friendliness, work ethic, and strong family values.

Despite our geographic separation, the time has come for all Missourians to act in concert. Although we still think of ourselves as separate and distinct from other parts of Missouri, all parts of the state are facing tremendous pressure from economic transition—change that is creating uncertainty and pain as friends and neighbors confront new job requirements as well as the possibility of unemployment through layoff or obsolescence. And good job opportunities for our youth seem vague and unreachable. At the same time economic change is providing only limited new opportunities in 'new-tech' manufacturing and high-value service industries.

By acting now to anticipate the opportunities this changing economic landscape presents, and by pledging ourselves to building a world-class Missouri workforce in every corner of the state, we can master our economic future and provide a growing standard of living for ourselves and our children.

Driven by massive technological change and the relatively sudden impact of international market competition in the 1970s and 1980s, Missouri's economy has undergone a series of adjustments. The manufacturing sector, once the chief employer of Missouri workers, now has lost that role to services. Professional and business services in particular have grown tremendously in recent years. While manufacturing output increased, manufacturing employment dropped from 21 percent of total wage and salary employment to 15 percent over the past two decades. And manufacturing jobs still generate close to 17 percent of all income in the state, while they used to provide about 24 percent of total personal income. And while 300,000 more people are employed today in service jobs than in manufacturing, service jobs don't produce as big a portion of Missouri's total income.

Job losses have occurred in industries that were once at the heart our our state's economy—especially industries that are the most susceptible to lower-wage competition from abroad: leather goods, apparel and textiles, and to a lesser extent, automobile and other mass production industries. Meanwhile, higher value-added industries like printing, publishing and electrical equipment have grown. And while the farm economy has had obvious ups and downs over the past years, total agriculture and agricultural-related employment have actually increased.

These economic forces play themselves out in different ways in different parts of Missouri. Joplin, Springfield, and the central Ozarks are experiencing steady job growth, fueled by retirement and the recreation industry as well as some traditional manufacturing. Yet, according to the Bureau of Economic Analysis, both cities rank near the bottom among all metropolitan areas in the country in terms of personal income. Kansas City and St. Louis are losing manufacturing employment but are gaining higher-end service jobs in banking, legal services, health services, and other sectors where Missouri's position as a regional commercial center are important. Northern Missouri continues to suffer outmigration as a result of the farm economy woes that peaked in the mid-1980s.

During these years of transition, some occupations have experienced rapid gains while others have fallen prey to new and intense competition. Again, these changes play themselves out differently and on a very personal level in every Missouri community. In Kansas City, for example, 1,800 jobs making motor vehicles and parts were traded for 2,300 jobs in telecommunications between 1984 to 1987. Over the same period in the Central Ozarks, 600 boat-builders replaced 600 footwear makers. In Southeastern Missouri communities, 400 new jobs in nursing and personal care emerged while 300 jobs making men's clothes disappeared during the same period. These are just a few of the examples of the dramatic changes occurring all over Missouri.

But these statistics don't begin to tell the full story. They mask a qualitative shift in the nature of many jobs. Metalworking used to be a manual trade. Today it is as likely to require familiarity with programming computer-controlled equipment. Truck drivers in Missouri must pass a basic reading test to get a license today. Fast-food workers are being asked to handle cash-flow, invento-

ries, and a variety of additional tasks. All in all, the nature of occupations is changing so that even some occupations that might sound low-skill really require higher skills.

Even while these changes are occurring in many companies, affecting many occupations, business firms in Missouri still lag behind others in the nation in developing a 'high-skill' work environment. Missouri far exceeds the nation in jobs where individuals work alone and rely on physical skills such as hand-eye coordination in assembly or moving goods around. This observation is one piece of evidence suggesting a continued predominance of assembly-line type occupations and a reliance on low-skilled labor among Missouri companies.

The simplest measure of the need for higher skills in Missouri is to compare the education level of Missouri's citizens with projections of the educational prerequisites for jobs that will be created in the next few years. Figure One shows this challenge.

One way to think about this challenge is as follows: jobs that rely on high skills will be the jobs that pay a decent wage in the world economy of the future. Engineers, computer-designers, financial analysts, operators of CNC machinery, skilled medical technicians, and skilled craft workers will be sought after by competitive companies. These jobs will go to where the people with the skills are—whether it be Japan, West Germany, North Carolina, or California. *If Missouri wants these jobs, it must invest in its people and prepare them for higher-skilled jobs.*

Another way to think about the challenge is that virtually every job will be affected to some degree by new technologies, new ways of organizing and managing work, or new ways of serving customers. Every Missourian must think about how he or she will relate to a life of continuous change.

It is clear that higher skill levels are key ingredients, if not *the* key ingredients, in *creating* new jobs. Studies of jobs in America find that the top factor affecting job growth is the human factor—the level of human resource capability. *Better educated people create jobs.* This simple fact isn't too surprising. After all, inventors and entrepreneurs don't spring up magically.

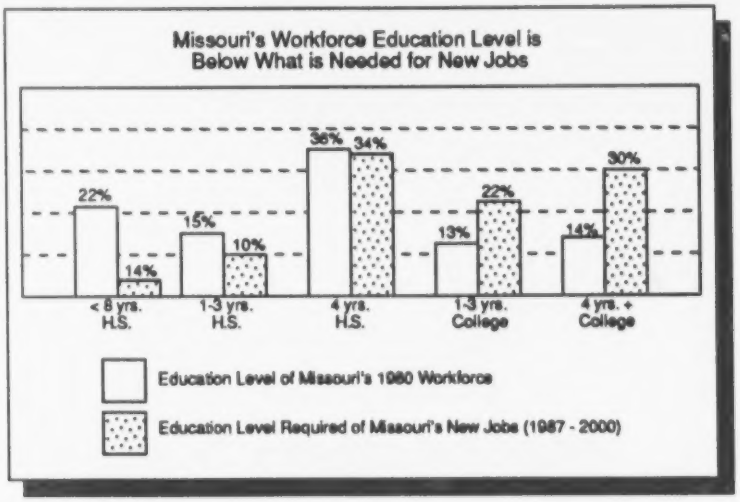

Figure One

An educated culture supports adaptability and promotes more learning, tinkering, and discovery. For example, it is estimated that graduates and former faculty of the Massachusetts Institute of Technology have created firms that employ over 300,000 people in Massachusetts alone.

There aren't many MITs in the world, but people who search, learn, and improve themselves are more likely to build a better mousetrap and put people to work. And an entrepreneur builds a business by getting other smart, capable people to run it. A business grows and expands because people work smarter—and so it goes.

Moving Ahead: Where to Begin?

Preparing for a higher-skilled future sounds straightforward enough. But do we really believe in it? Why do we as Missourians think we need to move ahead and secure a brighter economic future?

Jobs for Missouri's Future began its work by talking to Missourians from all walks of life—from corporate boardrooms to the assembly line. In focus groups, regional 'congresses', field interviews, and surveys we asked Missourians: what do *you* think is going on in the Missouri economy and what needs to be done about it? What we learned provides an essential starting point, a common frame of reference and language for discussing the steps we need to take to move forward.

- Missourians are aware of some of the global economic changes that are transforming today's economy, but are unsure what to make of them. We know, at least, that our children will need to get more education and better skills to keep the jobs and the lifestyle we value so highly in Missouri today.
- We are generally optimistic about the economic future of Missouri, and dedicated to doing well for ourselves and our employers. But 92 percent of Missouri workers believe that jobs today require a lot more training and education than they did just a few years ago, and *35 percent of workers think they need more training just to keep their current jobs.*
- Missourians see economic changes in very personal terms, and are concerned about how they and their communities can and should respond. Greater emphasis on technology and technical skills is causing job anxiety at the workplace. As one woman from Sedalia told us: "Five years ago I supervised six women who did everything. Now I'm on a computer system and I only need three of them. What am I going to do with the other three?"

As a result of the changes taking place around them, Missourians across the state are feeling less secure. Many workers believe they are unprepared for changes in the economy and in work that may require greater knowledge, or learn how to do things differently. Despite a general awareness that we are unprepared, many Missourians say they are unlikely to do anything about these changes until they are directly affected by them. As one woman from St. Louis put it, "Most people don't accept that their own job is changing—they only accept it when they have to."

As a whole, we aren't yet willing to really act to improve our skills. We only worry a little about our own job (only 22 percent of Missouri workers worried about being laid-off), but say we would like help in making sure we stay on top of the job (63 percent of us would welcome the opportunity for additional job-related training in the future). But generally we are content. Some would say we are complacent even about our own future.

Missourians really only begin to feel uneasy when we think about their children's economic future. As a man from Kirksville told the group: "I'm more concerned about my kids' economic future, than my own—I know I'll weather the storm, but I don't know about my kids. Things are going to be a lot tougher for them."

Part of this concern has to do with particular weaknesses Missourians reported in the education and preparation of our children—kids don't have realistic expectations about jobs, they don't have a strong work ethic, and the schools just aren't preparing them well enough for the workforce.

But much of this concern is the nagging worry that what has happened to many of our peers could also happen to our children. Missourians see a world where friends and people we know are working below their skill levels—at jobs that aren't as good or pay as much as ones that seemed to

be around several years ago. And we worry that the Missouri of tomorrow won't resemble the Missouri of today.

When we talk to employers, however, we get a different story. Employers say that they can't find enough skilled help right now. That they can't find qualified personnel to fill key occupations. That their movement to a high performance work environment is slowed down by a lack of educated and trained people. Firms JMF surveyed and interviewed had several concerns in common:

- *There is a skills 'mismatch'*: According to the JMF employer survey, labor quality is the number one concern. And firms' personnel needs don't match the availability in the labor market. Over 60 percent of firms surveyed had trouble in finding skilled craft workers, technicians, and professionals.
- *Employees need 'new' basic skills*: Companies gave the lowest grades to all employees (regardless of occupational level) in the areas of communication, setting and meeting priorities, group effectiveness, problem-solving, and leadership, and they placed the highest priority on developing these skills.
- *New workers aren't 'job-ready'*: Employers also say young people and entry-level workers aren't prepared with basic skills, lack motivation and work ethic, and often aren't interested in jobs that are available, particularly in blue-collar occupations, many of which pay good money.

So what is going on here? Employers would have us believe there are plenty of good jobs without people to fill them. Missouri workers and citizens on the other hand see an economy where good job opportunities are harder to find. At a deeper level, Missourians are skeptical about the need for better education or job training when there aren't jobs out there to which a worker can apply that learning.

As we attempt to move forward together, we face a dilemma. How can we move ahead when we get mixed signals and draw different lessons from the changing economy around us?

Squaring the Circle: Moving to a High Performance Economy

Missouri's workers and employers each see a piece of a larger puzzle that is Missouri's changing place in the global economy. It is clear that many workers experienced economic dislocation, as jobs we came to rely on disappeared overnight because someone in Mexico or Singapore could do it cheaper. It is equally true that many employers face urgent workforce needs as they struggle to be competitive in a marketplace that requires, as never before, high quality, flexibility, and innovation. Missouri can't and doesn't want to regain the jobs that rely only on low-wage, low skill labor—those jobs don't pay enough, given global competition, to support a family. Missouri *does* want to create and attract jobs that depend on high-skill, high wage labor. These jobs *can* support a career, a family, and a community.

The challenge to Missouri firms, workers, state and community leaders, is to build the foundation that will develop a high performance economy—an economy that depends on high skills and produces goods and services that earn a good return in the world marketplace. In this context, the job growth in the retirement industry, health, and tourism-related fields in much of Missouri is helpful but not by itself enough. Missouri must focus on higher-valued exportables, goods and services that are shipped to or performed for people in other states and other countries. This strategy is the best way to continue a growing standard of living, as dollars from state 'exports' flow into Missouri.

All of us have a part to play in this effort.

The Challenge to Firms

When Missouri employers complain about poorly prepared workers, they present only one half of the story. The other half is that not many of them are acting to meet the workforce challenges they themselves identify. Some firms in Missouri *are* investing in their workers and creating new work environments built on high paying, high-skill jobs. But even more Missouri firms aren't. The National Center on Education and the Economy, in their recently released report *High Skills or Low Wages*, describes the nature of the transformation taking place on a global basis:

> *High performance work organizations are replacing mass production in the world's best companies. The guiding principle is to reduce bureaucracy by giving autonomy to front-line workers. Workers are asked to use judgment and make decisions rather than follow, by rote, cumbersome procedures spelled out in detail. Management layers are disappearing as front-line workers take over many of the tasks—from quality control to production scheduling—that others used to do. Work organizations like this require large investments in training. Workers' pay levels often rise to reflect their greater qualifications and responsibilities. But the productivity and quality gains more than offset the costs to the company of higher wages and skills development. Despite these advantages 95 percent of United States companies still cling to old forms of work organization.*

Do 95 percent of Missouri firms still shy away from competitive transformation? We can't say with precision, but JMF's discussions with Missouri employers over the past year suggest that relatively few Missouri firms have developed the 'high performance' style that combines high technology, changes in work organization, and high-value added production across the workforce. We also looked at the symptoms of an economy that depends on traditional production:

- *Faced with a skills shortage, Missouri firms do not train their own workers.* While 74 percent of firms in Missouri we surveyed said training is an excellent investment, the majority of firms spend less than $5,000 annually on education and training of their own workers.
- *Lacking skilled workers, Missouri firms don't develop them in-house.* Employers complained about the difficulty of finding qualified workers to fill key positions. Yet they rarely look inside the firm and invest in workers who are already on-line. Only in filling managerial posts did the majority of Missouri firms promote from within the firm most of the time.
- *Missouri companies neglect to train in the skills about which they complain most.* Employers in Missouri believed worker skill deficiencies were greatest in skills like communication, problem-solving, setting and meeting priorities, yet the training Missouri firms provide revolve almost exclusively around job specific skills. New basic skills, as well as traditional areas like reading and math, and training in the use of new technologies were less often the focus of training investments, even though these were the areas firms themselves felt were deficient.
- *Missouri firms neglect front-line workers.* While semi-skilled workers (operators, fabricators, and laborers) were viewed to have the greatest skill deficiencies, they received the least training, and in many cases none at all. Firms overwhelmingly spend time and resources training managers and professionals versus line staff.
- *Companies don't like high training costs, but don't use already available 'public' resources.* Firms are concerned about the cost of education and training, but by a large margin prefer private training providers over public ones.
- *Despite some general awareness of a labor shortage that will likely develop by the year 2000, very few firms have taken active steps to ready themselves for a labor short environment.* The demographic evidence is undeniable across America. In the next five to eight years the size of the American workforce will begin to shrink. What is currently a skills gap will soon be a people gap as well. Yet our work with Missouri employers indicates that the

few firms that are aware of this developing issue have not developed any internal strategic response to cope with it.

Nevertheless, there are many bright stars in the constellation of Missouri companies that can be examples to other firms. One such firm is **Kelsey-Hayes** (K-H), a branch-plant maker of steel auto wheels in Sedalia. K-H faces stiff competition from U.S. and foreign auto suppliers, and has had to develop new production and training methods to compete. The plant operates on a team-work concept, replacing top-down management with 'side-to-side quality circles'. K-H only promotes from within for high-skill positions. Roughly 5 to 10 percent of an average K-H employee's time is spent in formal training, mostly through training videos. The firm views this type of education as a normal cost of doing business. K-H also took advantage of state training funds when they became available in 1978, and worked with State Fair Community College on basic skills training for manufacturing. Since then they have paid for their own training. In sum, a significant investment of state dollars followed by continuing investment by K-H has led to a competitive and stable firm providing hundreds of jobs.

The Challenge to Workers

One piece of the challenge of building a high performance economy is to encourage more firms to adopt the strategy like Kelsey-Hayes. An equally fundamental ingredient is to prepare the workers who arrive at Kelsey-Hayes and every Missouri firm to be ready for a fast-moving environment and to be willing to update skills continuously.

Employers aren't the only ones whose rhetoric does not match reality—workers also say they want better skills, yet aren't able or willing to do much about it. On the one hand, Missouri workers generally acknowledge that the world is changing, and that better preparation is needed for jobs. We would expect a workforce ready and eager to embrace new learning opportunities. Yet when it gets right down to it, workers are ambivalent about getting additional training, and aren't able or willing to stretch too much to obtain it:

- A large majority of workers (67 percent) believed their employer already provides more than enough training for employees to do their job well.
- Significant numbers (51 percent) said they would only attend training if their employer required them to do so.
- 49 percent of all workers in Missouri said they were happy to attend training, but only as long as it occurred on company time, not theirs.

In addition to these attitudinal barriers, workers perceive significant obstacles to their participation in training opportunities. A majority said training was not offered at a convenient time or place, half said training costs too much, 40 percent said good training programs are not available, and roughly 35 percent had no time or energy for the endeavor. Women, who have constituted the bulk of new workers in recent years, face even greater obstacles than men. Together these figures suggest employees won't respond to training opportunities without much stronger motivation, and employers meeting them more than halfway on time and cost.

But perhaps a deeper, more fundamental challenge exists in the mindset that so many of us as citizens of Missouri communities carry with us. For years it wasn't necessary in Missouri to get a college education or to take refresher courses in order to get and keep a good job. In community after community we heard people say: "The attitude of people here is, 'who needs education?'"

This mindset is a legacy of Missouri's many economic blessings over the years. It was possible for most of the state's recent history to go right from high school to the factory or farm and make a decent living. Those days are gone forever, but the legacy of this attitude still handicaps Missouri's attempts to move forward.

Many communities are beginning to change this mindset. A good example is the community of St. Joseph. Working together, the United Way, local businesses, and the school system are implementing a community plan to increase dramatically the incentives for young people to stay in school, and for adults to increase their basic skills. Central to the plan is persuading local businesses to say: "We don't hire without a high school diploma", while the local school system gears up additional adult education sites to meet the increased demand for high school equivalency programs. They call their program 'PIE' (Public Investment in Education). It was developed in response to St. Joseph's 26 percent dropout rate and the fact that 36 percent of area adults had not finished high school.

A community initiative such as PIE is one way to change attitudes towards education among young and older workers alike. Making it work will be tough. Achieving the goal of lifelong learning is not an easy task for any community or individual. We are all busy, work hard, and have family responsibilities which make it hard to seek out additional education and training. But a willingness to go the extra mile and improve our skills will be rewarded by greater opportunities in the job market of the future.

The Challenge to State and Community Leadership

Missouri has done much to anticipate and address basic human investment and workforce preparation needs that will affect the economic bottom line in the future. Missouri has been a pioneer in early childhood education, is expanding health services for young and old, and is continuously innovating in both traditional and vocational education. Today's close scrutiny of Missouri's system of higher education by such groups as the Business and Education Partnership Commission should yield institutions better equipped than ever before to meet the educational challenges ahead. And communities around Missouri are beginning to understand the need to address challenges in education, literacy, health and other workforce issues.

Missouri must extend and accelerate these innovations and initiatives—identifying, then getting behind the top priorities in workforce preparation at both the state and local level. The challenge to state and community leadership in this effort is to view the big picture and identify the priorities—to figure out at both the state level and within our own communities the most important steps necessary to prepare people for a high performance economy. A persistent and important theme of JMF's regional meetings was that government, business, and community leadership must work together in new and different ways—communicating and planning better, then marshalling the resources at hand to prepare students and workers for productive careers.

Missouri needs the contribution of all its citizens if it is to prosper economically. The state must make special efforts to ensure that the economically-disadvantaged and those who have fallen behind in the economy for any number of other reasons have equal access to learning programs that bring them back into the system. Efforts must be made not just to reach those who have already suffered because of their limited education and training, but also those who are at-risk of falling behind. The principles of early intervention and individual-centered outreach must be incorporated into efforts to help these groups. Why a special effort for the disadvantaged?

- Not all residents of Missouri have the same resources and ability to take advantage of the broadened range of educational and learning options that are increasingly necessary for full participation as citizens and workers.
- Missouri's future depends upon the incorporation and advancement of *all* its residents.
- The state cannot afford to have the educationally-disadvantaged and economically-disadvantaged, at-risk, members of the population fall behind and drop out of the learning system at an early age. The social, economic and political costs of a two-tiered society will be too costly.

Identifying Priorities

Jobs for Missouri's Future is engaged in identifying the top priorities for workforce preparation at a state level. We hope that the same process can be developed by community leaders at the local and regional level.

To accomplish this task we first must look at the Missouri workforce as a whole. The contours of Missouri's population and workforce are changing. Some of the changes are obvious, some startling. Understanding who we are now, and from where the workers of today and tomorrow will come, will help us identify the most important investments needed in our human capital.

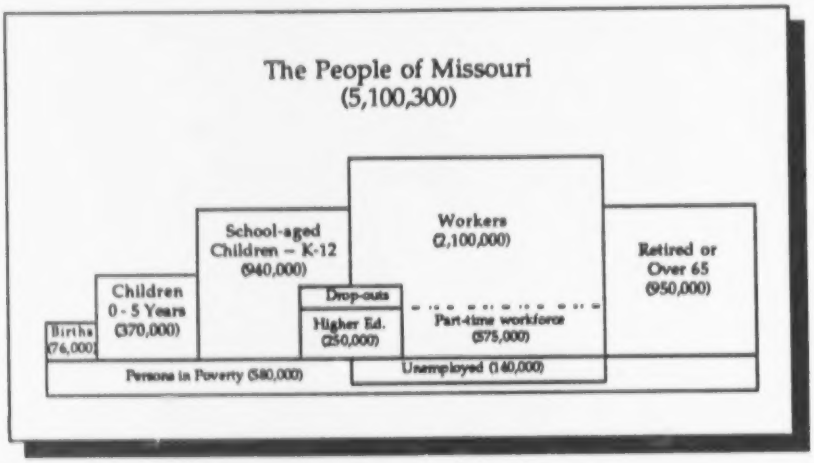

Figure Two

The 'map' in Figure Two gives us a snapshot of Missouri's 5.1 million people. It hints at where Missouri as a state is succeeding—how many of our of workers and potential workers are employed or in school. It also shows us how much work we have to do to lift more Missouri citizens out of poverty, to educate and train the *current* workforce, and to help young people enter the job market ready and eager to go to work in more demanding environment.

What this snapshot doesn't show us is how the Missouri population has been changing. Changes in the demographics and character of Missouri's workforce will determine where Missouri must place its priorities in workforce preparation. There are several obvious challenges to Missouri's ability to build a competitive workforce:

- ***Priority Issue: Tomorrow's workers are today's workers.*** While continuing to develop educated, skilled new workers is essential, we cannot ignore the fact that an overwhelming majority of Missouri's workforce consists of workers who are adult already at work today. The pool of young people who will continue to enter the labor force is shrinking. As illustrated in Figure Three, almost 80 percent of Missouri's workforce for the year 2000 is already 'on the job', and the Missouri workforce is aging rapidly. The number of workers between the ages of 45 and 55 years will increase more than 60 percent by the year 2000, which puts Missouri well beyond other states in the proportion of future workers already at work. A shrinking pool of young workers and a rapidly expanding pool of middle-aged workers on the job will challenge Missouri's workforce preparation system. ***Goal:***

Missouri must focus its workforce preparation efforts on upgrading the skills of our current workforce.

- ***Priority Issues*** *Almost 1/5 of Missouri's population (940,000 people) is over 60 and workers near retirement (aged 55-64) will increase almost 50 percent by the year 2000. Goal: We must work hard to ensure our senior population has opportunities to contribute to society, work if they want to, and otherwise live in comfort and dignity.*
- ***Priority Issue: New workers aren't skilled.*** One-quarter of our teenagers still drop out of school. The dangerous result for Missouri is that the number of low-skill workers is

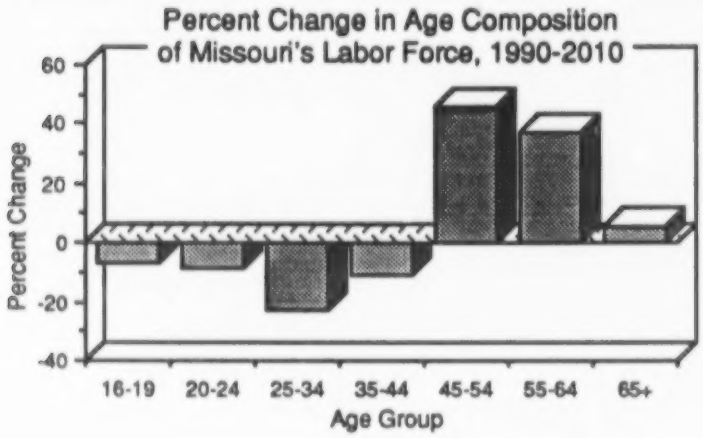

Figure Three

increasing while high skill jobs go begging. Of those young people that do graduate, from high school, only 49 percent go on to higher education. And 3 out of every 5 college freshmen will never complete a higher education degree. ***Goal: We must educate and connect the precious number of young, future workers with the workplaces of tomorrow.***

- ***Priority Issue: Missouri's workforce is growing more diverse by gender and race.*** While white males make up 40 percent of the workforce today, they will contribute only 17 percent of new workers in the years ahead. The numbers of women, by choice and by economic necessity, who are participating in the workforce is growing fast. The proportion of women in the Missouri workforce lags slightly behind the U.S. average, but is catching up. Today's estimates are that 49 percent of Missouri women are working versus 54 percent of women nationally. National data reveals that the earnings of men have remained constant in recent years, while women's earning have increased 20 percent. JMF data shows that the percentage of women entering the Missouri workforce will be greater than that of men in almost every age group and every region of the state over the next 20 years. Today minorities constitute 12 percent of Missouri's population. But these individuals are still disproportionately represented in unskilled occupations. The minority unemployment and poverty rates are roughly twice that for Missouri as a whole. ***Goal: Make sure women and minorities are prepared with the skills to participate in a high performance work environment.***

Meeting Priorities: The Workforce Preparation System

Missouri has many institutions and resources that together constitute its workforce preparation system. This system has grown up over the years through the creation of functional agencies, institutions and programs in response to a variety of different needs. Today we must examine that system in light of how it is equipped to move quickly and effectively in meeting the current workforce preparation challenges in Missouri.

For the most part, Missouri's state education and training systems, designed to work best in a different economic era, are not yet equipped to prepare workers for a high-skill economy. Integrating education and training policies into a single workforce preparation system that links learning with the economic goal of creating high performance workplaces is today a primary challenge of state and community leadership. In the area of workforce development, states around the country are looking to implement broad initiatives and systemic change; change that will engage a wider segment of both the current and future workforce in skill enhancement, as well as transform the system of schooling and job training to be more responsive to the new demands of firms.

Another common theme of JMF's regional congresses was that the 'right hand did not know what the left hand was doing' when it came to workforce preparation agencies and programs at the local level—the 'system' was misfiring. As a plant manager in Joplin put it:

> *Finding the right training source is haphazard. When I have a training need I call the SMSU Business Research Center, the vocational school director, the University extension school director, or a buddy at another firm—and I get at least two calls a week from other companies wanting to know where to go.*

Missouri's employers, workers, and those institutions who could assist both workers or employers—job training programs, vocational schools, colleges and universities, and state human service agencies—aren't connecting with each other. Different agency boundaries, forms, procedures, funding, and institutional responsibilities make it quite confusing for both workers and employers to know how to get the help they need.

This sort of connection can be developed, as many communities in Missouri are demonstrating. For example, manufacturing firms in **Lebanon** don't have a community college to help train their workers, so they banded together in a consortia arrangement and are working with the area vocational school to design courses and provide training on-site for workers.

Or in **Springfield** the school system, area businesses and a supportive community have developed a long-range strategic plan to "guarantee all community members the skills and knowledge necessary for their fullest participation in our changing society through a totally integrated, school and community based, outcomes drive, no-fail educational program to meet the individual needs of each student." A similar planning process is underway between local companies, the school system, and human service agencies in **Hannibal**. And across the Missouri **Farm Belt** the University of Missouri Extension Service and four state education and social service agencies are working together to form local human investment councils to identify key human service needs and cut through bureaucratic red tape to meet those needs.

These are the kind of initiatives that must be developed and supported by state and community leadership if Missouri is to make its current workforce preparation system meet the skill needs of tomorrow. Education, job training, vocational schools, community colleges, universities, and second chance systems like the Job Training and Partnership Act (JTPA), and welfare-to-work programs, together spend over $2 billion state tax dollars annually, and close to $5 billion dollars from all sources of funds. These workforce preparation programs have disparate goals and ways of measuring performance, serve a variety of target populations, and are very different in terms of reach and effectiveness.

Examining these human investments reveals some neglected pieces in Missouri's workforce preparation system. The graph in Figure Four shows recent year total spending and the states' share of spending for:

- the whole state budget;
- a subset of the state budget that represents the total level of 'human investment'—that is, all 'people' programs—including welfare, education, corrections, etc.;
- the subset of human investment that goes to education and training (E&T)—K-12 and other public schools, universities, job training, etc.; and
- the subset within education and training that goes to direct job preparation through job training and vocational programs.

Buried within these aggregate spending figures are some interesting facts:

- Close to 70 percent of all state human investment funds go for K-12 education and higher education. Putting aside these funds, we are left with relatively small state investments that go for direct vocational education and training for young people and adults

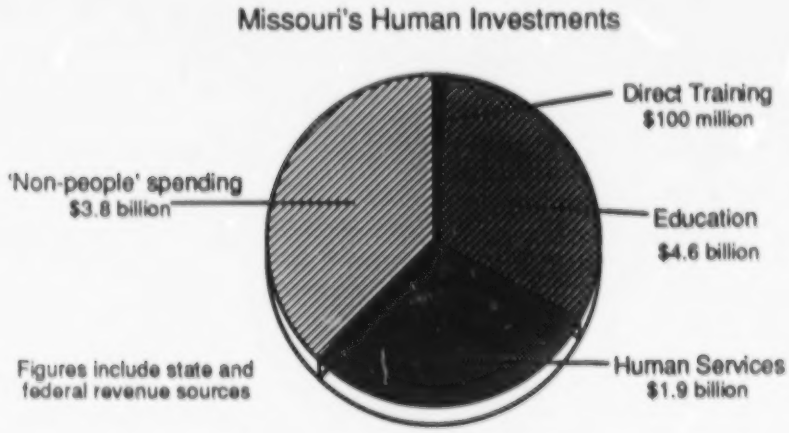

Figure Four

(less than 2 percent of the total human investment programs). *If we remove K-12 education and higher education expenditures from the total of education and training spending (E&T), only $90 million is spent each year for Missouri's direct workforce training programs*—an average of only $30 per worker for Missouri's workforce of almost three million people.

- *We spend millions to prepare young people for higher education, but very little to prepare the 50 percent who are headed straight from school to work.* While we would like to see more than 50 percent of young people go to college, far less than half of our K-12 resources are geared to helping those students who aren't going to college prepare directly for the workforce, and for a life of continuing learning as adults.
- *We are making growing and needed investments in preparing children for school, but we largely abandon workers once they reach the workforce*—except for very modest 'second-chance' programs that suffer from their own stigma of being 'just for poor people'.

Programs like Parents as Teachers works in part because it works for everybody—rich and poor. Why should our workforce training efforts be any different?

In sum, direct workforce training programs operate only at the barest margins beyond the resources flowing through the traditional K-12 and higher education systems. Given the demographic realities discussed above—*Missouri needs a system not just to prepare people for work, but continually to prepare people who are working.*

Making the Match: The Job of State and Community Leaders

There are potentially many ways to get more 'bang for the buck' in the current workforce preparation system. Undoubtedly, community colleges, vocational and technical schools, and universities *are* in the business of workforce preparation, and a considerable portion of their resources are devoted to training that is directly linked to the skill needs of firms and workers. But our employer survey clearly showed that when firms do train they overwhelmingly prefer private training providers such as trade associations, consultants, and equipment vendors. And they consistently give public institutions and programs lower performance grades than private ones. While many community colleges, vocational schools and universities are working in entrepreneurial fashion to meet the needs of Missouri's firms and workers, clearly these institutions must change before they are viewed as indispensable and credible worker training providers.

It is very difficult to determine how well these institutions and their resources serve immediate workforce preparation needs, and how effective their efforts are. Two-thirds of students at public community colleges, and one-third at public universities are 'part-time'. All told, 44 percent of enrollees at public institutions of higher education in Missouri are part-time students. In theory, these students are either taking classes to complement or better prepare for current or future work, or engaging directly in job-related training. Only an institution-by-institution analysis could really tell us what these students are doing, whether they are getting and keeping good jobs, and whether their education is providing skills needed to advance in their current job, or to get a better job. Currently, 'enrollments' are the only statewide measures we have for academic performance.

This is where many will say 'stop the presses—certainly most private sector training is the responsibility of the private sector.' As we have seen, the commitment by firms to training is less than it should be, and the resources spent on education and training by the public sector still far exceeds private sector training investment. Nationally firms spend $30 billion annually on training. Nationally, governments spend *$300 billion* annually on schools, colleges and universities. Surely some of these resources can be better directed to meet firm and worker specific needs.

In fact, it is becoming clear that there is a strong role for the state to play in eliciting and leveraging new training investment on the part of firms. A forthcoming study of state financed workplace-based training programs by Peter Creticos and Robert Sheets discusses the ways in which state training incentives and funding contribute to a companies' willingness to change their behavior. Their conclusions include:

- *(State) grants and incentives are often the impetus to provide training because they overcome management's apprehension of retraining. Public grants reduce the cost of training and lead employers to make additional worker investments.*
- *Company executives are not accustomed to using training as an element in strategic planning. Job training programs can have a 'catalyst' role by prompting employers to use training as part of their strategic planning and even to establish permanent training systems within their companies.*
- *State training grants and incentives expand the scope of training, speed up implementation, and increase the number of participating workers. Firms then offer more basic and vocational training, to make the most of any technological or process improvement.*

Tremendous potential exists for better connections between public institutions and the needs of employers, as more companies seek to realize greater efficiencies and productivity through a better skilled workforce. A growing market exists among companies who are looking for help in upgrading the skills of the workforce, and are willing to pay for it. One example is Metropolitan Community College of St. Louis' 'workplace literacy' projects that are delivering custom-tailored programs, paid for by clients as diverse as the Monsanto Corporation, the East St. Louis Housing Authority, and the Jewish Hospital.

Other community colleges, vocational and technical schools and universities are pursuing this market as companies become increasingly quality conscious and look to transform less challenging jobs into occupations that require more responsibility, bookkeeping, computer and other skills. Tremendous potential exists for future growth and better connections between public institutions and the needs of employers, as more companies seek to realize greater efficiencies and productivity through a better skilled workforce.

Practitioners report there is a learning curve for firms that are beginning this productivity improvement effort. While a company may first tentatively engage in a one-time only, job-specific training program for a particular group of workers, the benefits that accrue to the firm in terms of increased productivity and employee morale usually bring them back for more. which is determined, of course, by delivery of 'quality' training in the first place, and getting the commitment from top management to invest for the future.

And the dearth of school-age students is also fueling the market outreach to firms on the part of Missouri's educational institutions, many of which are forced to seek new sources of revenue and students. This competition is forcing education institutions to deliver better quality programs tailored to business and student needs. Potential inefficiencies may result if no communication or coordination occurs between public providers of education services seeking to meet employer training needs.

In sum, the 'system' for preparing a world-class workforce is out there. It needs the vigorous efforts of state and community leadership to organize and focus it on the key workforce preparation challenges Missouri faces.

Meeting the Missouri Challenge

We *can* build better jobs by building higher skills, if we work together. To move ahead we must have clear objectives. Jobs for Missouri's Future suggests the following as the major objectives for our workforce preparation system.

Objective 1: Missouri Must Expand the Constituency for Lifelong Skill Enhancement.

The State of Missouri can take a leadership position in nurturing the growth of the New Missouri Economy—a state that depends on the skills and opportunities of Missouri workers, managers and entrepreneurs in every community and in every company. Yet many Missourians aren't convinced that dramatically improved education opportunities and performance are key to continued economic growth. And many companies aren't making the move to high performance work organizations that depend on and reward high skills.

Particular challenges exist in improving the skills of the workforce who have escaped, fallen out of, or long ago left the confines of traditional K-12 and higher education. Many communities and many companies maintain attitudes that developed in a different economic environment. Missouri must build on its existing economic base and help it make a smooth transition into the global economy of the 21st Century. This effort means encouraging the adoption and transfer of new technologies, supporting higher-skilled, higher value-added activities of firms, and establishing and leveraging the resources necessary for the workforce to develop new competitive skills.

For this objective, JMF suggests taking specific action to (a) increase the awareness by all Missourians of the need to commit to a lifelong learning process—that the educational demands of the New Missouri Economy are very real and demand action by each individual; and (b) invest in a new system of work-related education, directed at high school-aged young people, that develops highly skilled and flexible workers for the jobs that are most in demand.

Objective 2: Missouri Must Close the Emerging Skill Gap.

High quality workers are a top priority among Missouri firms, and 'new' basic skills are becoming more important to companies that are implementing competitive strategies and adopting new ways of organizing work. Missouri can't afford to slow down the growth of home-grown competitive firms. Small and medium-sized employers, particularly in manufacturing sectors, face greater obstacles to recruiting and training skilled workers.

In addition to complex skill needs, basic literacy problems are emerging as the work environment changes. The public institutions that serve Missouri's workforce needs are not performing optimally, or too often aren't looked to as a resource by Missouri employers. The current delivery systems for workforce *preparation*, and workforce *retraining* operate as two different systems and must be integrated. These factors, coupled with growing difficulties in finding new, young, highly skilled workers, require Missouri firms and public institutions to expand their investments in training and upgrading today's workforce.

Objective 3: Missouri Must Create a Market-Driven Workforce Preparation System.

The 'system' of public education and training support *is* confusing and appears confusing to both practitioners and clients. Many companies don't know where to turn for help and/or are put-off by

the competing, uncoordinated claims on their time and attention by different state programs and paperwork. Missouri can achieve workforce excellence by supporting the ability of 'customers' (individuals and employers) to access appropriate education and training resources. Missouri's economic base, workforce skills, and the availability of workforce preparation resources (including education, training, and human services) vary from one sub-state region and labor market to another. The prospects for generating quality economic growth and the distribution of resources that are available to support growth differ by region.

Persons who use the training services, including both individuals and firms, must have full and complete information about skill needs, the availability of education, training, or retraining resources, service costs, and the utility of training outcomes. Training institutions and programs must gear their efforts to serve the local marketplace of individuals and firms. The State of Missouri can take a leadership position in establishing a market for education and training—organized as a functional, decentralized and coordinated system—and promoting its full use. In this way, the State fully integrates workforce preparation as an essential component of its economic development strategy.

Objective 4: Missouri Must Develop a 'High Performance' Economy.

There are limits to what the public sector within the state can do to change the behavior of private sector employers. That may be one reason why traditional economic development focuses so much on recruiting firms to move into a state from some other location—that is one of the few ways a state can actually shape its own economy.

However, JMF believes that Missouri must focus more of its economic development efforts on encouraging more Missouri firms to adopt a high performance style. Missouri firms have been slow to adopt existing production technologies and to experiment with new ways of organizing work that could provide greater productivity. Very few firms are yet ready for the inevitable labor shortages that lurk within the next five to eight years—and the implications for finding skilled workers when there are fewer people from which to choose.

As a result, both the public and private sectors have an incentive to work together in strategic ways that plan for the future—that can generate greater demand for higher skills and can assure an economy that is driven by innovation and production rather than by low wages.

These are our objectives. In the following section we will outline concrete steps to be taken to meet these objectives. Together we can build better jobs in Missouri, by building better skills.

The Jobs for Missouri's Future Action Plan

The Jobs for Missouri's Future action plan is a set of complementary initiatives to meet the objectives outlined in the Missouri challenge.

First, Missouri's employers must be encouraged to adopt a high performance profile—combining the latest of production technologies with new styles of work organization that demand higher skills on the part of workers.

Second, both the public sector and the private sector must work harder to close the skill gaps that currently exist in the Missouri workforce, and that will only widen as more firms get competitive. Policymakers, educators and corporate managers must pay increased attention to the learning and training needs of individual workers as more is expected of them in firms with a high-productivity profile.

Third, Missouri communities must begin to respond to the challenges of economic transition in new and different ways. Citizens and workers must develop a far greater appreciation for continuous learning and upskilling. A stronger education ethic must emerge—an ethic carried by school children and adult workers alike—that will demand more from leadership in both the public and private arenas.

Finally, and most importantly, a workforce preparation system must be built to prepare all Missouri citizens for a lifetime of learning and re-learning, on and off the job. A system responsive to the needs of students, workers, and employers, and accountable to the taxpayers and firms who support it.

The recommendations identified here follow this new path toward Missouri's future economic security. The action plan calls for all Missourians:

1. **To Develop a 'High Performance' Economy:**
   - challenge business firms and business associations to be more active in promoting the transformation of industry to a more high-performance posture; and
   - work to meet the workforce needs of the smaller and medium-sized business firms that are key to economic growth and job creation.
2. **To Expand the Constituency for Lifelong Learning and Close the Emerging Skill Gaps Among the Missouri Workforce:**
   - to communicate the message to all Missourians of the connection between *lifelong* education and economic security;
   - to increase state and private sector investments in the *adult* workforce; and
   - to develop a better, integrated system of preparing Missouri's *youth* for the world of work, especially those who are not college bound.
3. **To Create a Market-Driven Workforce Preparation System:**
   - to establish clear workforce goals and measures that will let us know what we are getting from our public training investments; and

- to design administrative organizations that make the training system far more responsive to both employer needs and that are 'market-driven' to assure the greatest efficiency in provision of training services.

1. *Goal: Develop a 'high performance' economy by expanding private sector involvement in workforce development.*

Recommendation: Missouri's private sector must take action to promote wider involvement of firms in workforce preparation and to help move industry on a faster pace toward a high-performance economy. Missouri's private sector must be challenged and engaged more actively in workforce preparation. Employers have the greatest interest in developing and maintaining a skilled workforce. There are a number of actions that businesses can take, in their own self-interest, to move toward the high-performance economy that must characterize Missouri's future. And Missouri's public sector leadership can encourage Missouri businesses to take the following steps:

- **Missouri companies can make better choices about training**—choices that assure greater equity across occupational levels and a better fit between the skill needs of the firm and the purpose of the training investments. The Commission on the Skills of the American Workforce recently estimated that American companies spend an average of about one-half percent of total payroll on training, while the companies located in our chief competitor nations spend about 4 percent of payroll on training. The Commission actually recommended a state-based employer tax that would encourage employers to spend at least one percent of payroll for training. Missouri firms should consider budgeting an optimistic interim goal of 2 percent of payroll for training expenses.
- **Missouri companies can integrate human resource development into their institutional culture** and structure by connecting learning to career development, having performance appraisals include a learning plan for individual development, and rewarding learning and new ideas.
- **Missouri companies can inform employees about changes in the organization that will have skill implications for the workforce.** Communicate to employees directly and *well in advance* anticipated changes in business strategy or products that will change skill requirements; let people know what it will take to succeed in the company over time; let them know which jobs are projected to grow and which are likely to decline.
- **Missouri companies can encourage employees to develop a training ethic.** Provide release time so employees can take training. Identify and address obstacles to training such as the need for child care, tuition assistance, poor basic skills or attitudinal obstacles such as those identified by the JMF worker survey. Provide rewards or incentives to employees who make the extra effort to get ahead through learning.
- **Missouri companies can take the lead in coordinating the provision of literacy training to those employees who need it.**
- **Missouri companies can consider the adequacy of employment policies for women, minorities and older workers.** JMF analysis suggests that access to employer-sponsored training is inequitable across the workforce. The future workforce will have a higher proportion of female and minority workers, and employers will have to take more active steps to assure that these new workers are treated fairly in terms of access to training and education.

Recommendation: Meet the workforce needs of Missouri's small and medium-sized firms that are the key to economic growth and job creation. Missouri must target resources and innovative programs and incentives to the small business sector. Targeting is critical if the state is to be able to generate and support broad-based economic growth around Missouri, and provide adequate employment opportunities for all its citizens.

Why work with small and medium-sized firms? These are the firms that employ most Missouri workers. These are the firms that will build the Missouri of tomorrow. These are the firms that have the greatest difficulty identifying training needs, locating training solutions, providing training opportunities for their workers, funding tuition assistance benefits, and allowing workers time off during work hours for learning. Small and medium-sized firms tend also to employ more women, youths, and less educated workers than their larger counterparts.

Missouri firms, especially the small and medium-sized firms, should look at ways to work together to identify and solve common training problems. Small businesses that are able to capitalize on the agility and responsiveness afforded by their small scale can be highly successful in local and international markets, even against larger competitors. But they must find new ways to overcome the disadvantages of scale when it comes to analyzing markets, adapting to technological change, and in building a more highly skilled workforce.

Recommendation: Evaluate available small business loan programs to ensure that loan proceeds can be used to fund work training costs as well as capital investments. Programs should be structured so that businesses are eligible to receive loans of up to 100 percent of the costs of their training. The initiative, to be successful, must be tied to local economic development programs, and other programs currently in existence for small businesses. In addition, the grant programs currently offered through the Department of Economic Development and the Department of Elementary and Secondary Education's customized training programs, should have a loan component as a part of their program design.

Recommendation: Encourage the development of internal training systems within small businesses by providing matching grants and no cost loans to establish or expand trade associations. The establishment of skill development or ***training consortia*** among small businesses with similar needs can create economies of scale in responding to those needs. Consortia can significantly extend the learning system of the individual firm—several small firms can learn from the experience of one.

However, small firms are not normally accustomed to working together. And training institutions, both public and private, are not usually organized or funded to help create new forms of collaboration that could promote joint training programs. Very few public educational institutions at any level systematically promote cooperative behavior on behalf of training and workforce development.

The most realistic opportunity would encourage industry associations to begin working actively among their memberships to define workforce preparation issues, identify solutions, and promote action among their membership. These associations would serve as industry clustered training consortia to meet the training needs of small businesses and serve, where appropriate, as deliverers of the training to small businesses. The trade associations should also begin focusing on the task of providing the state with specific skill requirements by industry grouping in order to take the first steps around the credentialing of work skills.

Recommendation: Promote the expanded use of technology by small firms through developing flexible manufacturing networks and shared computer integrated manu-

facturing facilities. Many industries that are key to Missouri's economy are smaller businesses that often lack access to costly technology and skills training that can help them be globally competitive. There are two concepts that could assist in speeding the transfer of new production technologies to small and medium-sized firms: a 'flexible manufacturing network' of firms who collaborate to achieve together what they cannot do alone; and a 'shared computer integrated manufacturing facility' that would make expensive, state-of-the-art technologies available on a time-shared or leased basis to smaller firms who could not otherwise afford the equipment.

- ***Manufacturing networks.*** A flexible manufacturing network is a group of firms that collaborate to compete effectively. By cooperating in informal networks, groups of independent firms could (a) share costs of research and development, (b) combine capacities to produce new goods and services, (c) aggregate production to serve large markets, (d) reduce costs through joint purchases of materials or management services, (e) acquire expensive technologies (and the training needed to operate them), and (f) increase market share and export-based earnings. Experiments with such networks in America suggest that common training needs and workforce-related investments are excellent issues for business networks to address.
- ***Shared Computer Integrated Manufacturing Facility.*** Recent advances in robotics, electronics, software, and computer-aided design and engineering have made a new industrial revolution possible—one that permits firms to create highly consumer-specific products for niche markets that don't require long production runs to justify the costs of production. One problem with the 'factory of the future' is that the new technologies are usually beyond the ability of smaller firms in basic industries to afford on their own. There are currently two established operating sites (in Huntington, West Virginia, and in Meadville, Pennsylvania) where a university-based research corporation has acquired state-of-the-art computer integrated manufacturing systems and are leasing access to the equipment to small and medium-sized firms—providing the engineering and technical training to employees in how to use the equipment.

  There are two technology centers in Missouri that are experimenting with this concept: The Computer Integrated Manufacturing Center (CIM Center) at Washington University, and the Center for Technolcgy Transfer and Economic Development at the University of Missouri-Rolla. Neither program is fully operational, but the concept needs the strong support of the state.

Recommendation: Use large firms to promote training along supplier networks. In recent years many large firms in Missouri have gone through a process of 'downsizing' and 'outsourcing.' That is, they now rely on independent suppliers for parts, services, and intermediate assemblies that they used to take care of in-house or through vertical integration. Few of the firms that have built these extensive supplier networks have done well at assisting the suppliers with technology adoption, management innovation, or workforce training. A logical action that large firms could take (for the benefit of the Missouri economy, as well) is to provide better support for their suppliers. Large firms, with the best resources and the most experience with corporate training, could do much to meet the training needs of smaller suppliers that usually lack the time and funds to address training.

Each of Missouri's largest 50 companies, on a voluntary basis, should:

- prepare a list of their state-based suppliers;
- identify those suppliers who are dependent on a continuing relationship with the 'mother' firm (e.g., where the firm could have an impact if it chose an active role in as-

sisting with the firm's training, especially if focus is on meeting standards for product quality);

- assess resources the mother firm has that would be useful in training managers or employees of supplier firms; and
- formalize avenues of assistance with interested firms.

2. *Goal: Expand the Constituency for Lifelong Learning & Meet the Emerging Skill Gaps Among Missouri Workers*

Recommendation: Communicate the message to all Missourians of the connection between education and economic security. The state, businesses, communities, and education and training leaders should pursue a communications campaign to reach all Missourians on the workforce development challenges. Top policy leaders need to speak with a unified voice about the changes in the workplace and what individuals, communities, and private businesses must do to secure continuous employment at an adequate wage. Missourians need to understand how the evolving economy will affect them personally in the next decade.

- Individuals need to understand that the income gap between well-educated and under-educated workers will continue to widen and that, on average, people with the most education and training will receive the greatest financial rewards.
- Communities need to recognize and act on the necessity of building a learning system that secures for all their residents the skills required for good new jobs.
- Private firms need to understand the options available for training and the necessity of investing more across the workforce.

Recommendation: Increase the skills capacity of the existing adult workforce. Missouri must begin a major workplace based education and training initiative by forging a partnership with business to ensure that the current workforce is appropriately educated and skilled to meet the changing and more complex demands of industry. Missouri's workforce is older than the national average, and in a very real sense, Missouri's workers of today *are* the workers for the year 2000. If Missouri is to compete in the next decade it must do so by strengthening the skills of its current workers.

Any initiative must truly be a public/private partnership; both partners must demonstrate their willingness to invest available resources in workforce preparation and work skills development.

In order for a workforce initiative to be successful, Missouri must develop a well-integrated and coordinated workplace education and training initiative aimed at:

- increasing the private sector's investment in the upgrading and retraining of their workforce and changing their behavior to invest in internal training systems;
- increasing the effectiveness of the various public institutions' ability to deliver workplace-based training and education programs by creating competition among local firms and training institutions to make them more market driven and consumer oriented; and
- aggressively linking the training and upgrading of Missouri's current workforce to its economic development goals.

The following are the major components of an initiative to upgrade the skills of the current workforce:

- ***The Job Training Coordinating Council should serve as a statewide workplace education and training panel to establish policy over all of Missouri's public-funded workplace based programs.*** These would include the customized training initiatives, Missouri's dislocated worker programs, and Missouri's literacy programs within the Department of Economic Development and the Department of Elementary and Secondary Education.

  Missouri has taken a number of very positive steps to ensure that a well-educated and skilled labor force is available, and a number of their individual programs have been very successful. However, Missouri's program's are not well coordinated. State policy directives from various agencies are not consistent, common funding criteria, common performance standards or common reporting requirements do not exist, and there is no systematic review of performance against standards.

  The overriding objective in giving the Council this focus is to increase the invest by businesses in the training of their workforce by providing funding for training projects that will eventually be built into the base operations of each firm. Therefore this initiative must be market driven; firms must be able to choose from a wide array of local vendors, including the option to deliver training on site with their own personnel. Firms need to think carefully and critically about their training needs and how such investments tie into productivity improvement. In addition, it is critical that public institutions experience real market competition, which will result in better programs at the local level. The panel should guide the initiative such that it improves the capacity of public institutions to develop top quality training programs that are responsive to businesses needs. The panel should provide funds directly to firms, where appropriate, with firms making the decision on the training provider.

  The panel's responsibility would be to establish state direction and priorities, make basic funding decisions, establish common performance standards for workplace-based training programs and to determine the allocation of funds. In setting state priorities, the panel must tie economic development goals to the workplace training initiative by establishing capital investment requirements, and job creation goals for firms receiving state funding.

  Organizationally, the workplace training panel (either the JTCC as a whole or through a standing subcommittee) should:

  - have members, and the designation of the chair, appointed by the governor;
  - have authority to review and approve the funding of training proposals and be independent from any specific state agency's jurisdiction.
  - have a majority of positions filled by private sector leaders;
  - be fairly small in size—no more than ten members; and
  - be staffed by individuals who are assigned from the public agencies represented on the panel.

- ***Establish an expanded job development fund that would be used to encourage greater amounts of training by Missouri firms.*** The size of the state's current job development fund is not sufficient to meet the training needs of firms across the state. An increase in the size of the fund could be accomplished through a variety of options:

- An increase in general revenue appropriations, which would distribute the cost of the fund on both companies and workers;
- A 'tax giveback' program that levies a tax on businesses equal to one percent of their annual payroll. If a firm expends, in a given calendar year, one percent or more of its payroll on formal job training, the levy would not be imposed. However, if a firm did not invest at that level, the state would collect the increment from the firm and place it in a general training pool targeted to workplace training. The oversight of this pool of money would rest with the workplace based panel. The smallest firms, those with payrolls below a certain amount, would be exempt. This particular funding alternative has recently been proposed by the Commission on the Skills of the American Workforce. It is the most effective tax incentive to influence employer behavior.
- An unemployment insurance (U.I.) surcharge or 'diversion' equal to one-fourth of one percent of a firm's U.I. costs. That is, the U.I. tax rate would be reduced by one-fourth of one percent and a 'training tax' imposed (or re-imposed) in the same amount. A number of states have initiated this type of an employer tax to finance workplace based education and training initiatives (California, Delaware, Michigan, Massachusetts). A number of states initially instituted a diversion of U.I. taxes, making it revenue neutral to businesses, for at least the first year. In subsequent years, the automatic U.I. tax rates were triggered, regardless of the diversion.

  Although the U.I. diversion is an effective way of obtaining more funds for workplace based initiatives, it will not alter firm behavior as significantly as the 'tax giveback' program. It will, however, capture businesses interest in the program since they are directly paying for the program, and therefore they are likely to become more involved in the decisionmaking process.

  If a U.I. diversion is pursued, Missouri should impose a very strict solvency standard on the U.I. trust fund to ensure the solvency of the fund.

- ***Provide corporations with a credit on their annual state income tax liability for qualified training investments.*** The tax credit must encourage business investment in work skills upgrading and retraining.

  There has been a tremendous amount of debate regarding the effectiveness of tax credits in influencing the behavior of firms. In proposing any form of tax policy, it is important that the policies do not result in creating a competitive disadvantage for Missouri businesses, but instead serve as an incentive for businesses to invest in their labor force. A number of states have successfully implemented tax credit programs, including Mississippi, Illinois, and Iowa, aimed at either the employer or the employee.

  JMF recommends that Missouri develop a tax credit program aimed at small and medium sized businesses, and targeted towards training for line workers and middle management—workers that typically receive little if any training attention from employers. The proposed workplace education and training panel would assist on the targeting policy and assessing the incentive value of the credit.

- ***Develop a statewide technical assistance capacity to promote productivity improvement programs.*** A business development center within the Department of Economic Development, or as part of the workplace education panel, should give a top priority to productivity improvement programs, including assisting businesses to develop appropriate training plans, advising businesses on how to integrate technological changes into their production processes (technology audits), advising firms on the establishment of

quality control programs, and assisting businesses in general on the availability of all business training services in Missouri.

JMF recommends that the center be staffed by business personnel (combination of people on loan from businesses and individuals with extensive business experience), and the staff should be organized around industry clusters, not regional lines. Missouri may want to experiment with a corporate income tax credit for the value of executive time that is made available to serve the center's needs.

As part of a technical assistance effort, a new program should be implemented that funds large businesses, which already have comprehensive internal training systems, to develop 'Train the Trainer' sessions for small and medium size businesses. This initiative could be funded out of the economic development fund.

A 'productivity institute', recently created by statute and housed in the Department of Economic Development, could serve this purpose. However, no funds have been appropriated to implement the concept.

- ***Refocus Missouri's 'second chance' training systems to be more responsive to the workplace needs of businesses.*** Much needs to be done to encourage long-term followup of job placements from key training programs.

  Missouri needs to direct more of its efforts with programs, such as the administration of the JTPA system, to provide more formal training at the workplace. An initiative should be launched that provides follow up with individuals placed in entry level jobs. Through a joint agreement with the employer, a Training Action Plan should be implemented, defining an individual's long term career plan within that company. This will require, for example, that JTPA counselors work closely with personnel in the firm and develop solid programs with community colleges and other training institutions, to prepare for entrance into more advanced training.

- ***Build a regional capacity for workforce skill training.*** Missouri should create regional committees to foster workforce improvement and advise local training deliverers regarding the skill requirement and training needs of local businesses. Missouri must build a regional capacity to grapple with the many regional issues influencing workforce skills training and upgrading. Although many issues facing businesses are industry specific, a great many regional factors influence the types and quality of training offered, the kinds of business assistance programs available, and the types of businesses located in a particular region.

  The creation of regional committees to work with local businesses and provide a forum for discussion for businesses and training deliverers will result in a more cohesive regional approach toward workplace based training, and a more cohesive regional economic development strategy. Given the current Missouri landscape, these local groups would be strictly advisory in nature. The committees could be constructed as part of Missouri's Private Industry Council system, or they could be state-established committees as part of an amended Missouri Job Training Coordinating Council. Regardless, their mission should be much more focused than that of a private industry council, and their composition should be mostly private industry representatives (at least 75 percent).

- ***Implement a series of employer-based regional training coordinators.*** In order to insure that programs are locally responsive, regional clusters of firms should fund their own training coordinator who would be responsible for working with firms, on an individual

firm basis, or on an industry cluster basis, to determine broad occupational training needs, and to assist firms in formulating training plans that will lead to increased firm productivity. In addition, the training coordinators should be linked into the state's business development program and should be heavily involved in the creation and expansion of trade associations and with the local committees.

Recommendation: Develop an integrated work-related learning system for young adults—through a Missouri Youth Initiative. The United States is the only major industrialized nation that lacks a formal system for helping young people make the transition from school to work. In our view, the absence of such a system is a major contributing cause of the crisis of workforce preparation in the nation, and in every state, that threatens our ability to compete successfully in the global economy.

There are several reasons why JMF sees a youth initiative as an essential component to Missouri's workforce preparation system:

- Between 60 percent and 70 percent of surveyed firms in Missouri reported difficulty finding technical help and skilled craftspeople. A Youth Initiative could contribute significantly to bridging these gaps.
- Youths who do not go on directly to college (more than half of all youths in Missouri), face barriers to identifying and gaining access to jobs with career potential. A Youth Initiative could directly address the needs of many non-college bound youths.
- A learning initiative that is work-based would encourage many Missouri youths to complete high school and continue future learning possibilities on the job. Not only would the students be earning wages on a full-time basis, but the things that they learn in school would be directly related to the tasks they are asked to perform on the job. The 'relevance' of school would be clear.
- By facilitating the transition between school and work, both employers and the state's economy can benefit from greater productivity and job retention among high school graduates.
- The initiative will be, in part, an employer-based system for producing skilled workers.

Jobs for Missouri's Future recommends that Missouri establish a Missouri Youth Initiative—a statewide, community-based system that formally links school with work in a way that would change the way young Missourians think about preparing for careers. The centerpoint of the youth initiative is highly-structured program of on-the-job training supplemented by part-time attendance at a school-based or academic learning center. The three-year to five-year program would:

- take the students out of their high school and place them into a work setting;
- provide a combination of on-the-job training and formal classroom instruction;
- provide academic instruction at a learning center that is closely coordinated with the hands-on instruction at the workplace—with very clear integration of work and learning and a heavy emphasis on acquiring thinking, planning, problem-solving, and teamwork skills as well as the highest of technical proficiencies;
- provide young people with broad-based skills for jobs that have a future by developing curricula and making job assignments that will generate cross-functional, flexible skills;

- graduate as 'products' students who are the best trained skilled workers available anywhere, complete with two years worth of transferable postsecondary credits.

Key to the Initiative's success is the participation of not only at-risk youths but high achievers. Jobs for Missouri's Future recommends that the Missouri's public and private sector leadership together launch the Initiative to enhance its visibility and credibility. With a combination of top state public and private support, a new emphasis on learning goals, and a formal relationship between the education system and the labor market, the Initiative would be a truly systemic solution to the issue of workforce preparation.

3. *Goal: Create A Market-Driven Workforce Preparation System*

To most efficiently and effectively assist the private sector and Missouri's workers in developing the skills of tomorrow, Missouri needs a public workforce preparation system that is truly accountable. A system in which we know what we are getting for our taxpayer dollars, and that we can feel confident is meeting the real needs of firms and workers in the changing economy.

Recommendation: Create a Performance-based Workforce Preparation System. Establishing a performance-based workforce preparation system means creating a measuring rod that is useful in judging the outcomes of publicly-funded education and training programs. The main point is that *some* common goal should be served by *all* workforce preparation programs. The goal should represent the most important tasks Missouri wants its workforce investments to accon plish. Once this goal is defined, efforts to reach it must be measured. Agency and program operational strategies are still left to the discretion of agencies and institutions within the system, but operators would be required to show *performance* of their agencies and programs in meeting the common objective.

For example, a combination of basic reading and writing skills may be desired outcomes of all workforce preparation programs. These skills could be defined, measured, and their attainment reported as part of the performance of all workforce preparation programs throughout the system. Or alternatively, an outcome goal and accompanying measure could be developed for equity, earnings, placement, productivity, or continuation to higher education.

With a common definition of performance and a way to measure that performance, the workforce preparation system would begin to appear more accountable and integrated to its true customers—employers, workers, and students.

Why a Performance System is needed. JMF's work reveals a number of major challenges for Missouri's workforce preparation system:

- Employers are generally dissatisfied with the job skills of *new entrants* into the labor market. High school diplomas are an inexact proxy for work skills and work ethic, and advanced degrees don't guarantee that the student has full capabilities in key skill areas. The current products of the vocational education system, state job training programs, and higher education get mixed reviews from employers.
- Employers identify significant skill deficiencies among their *current workforce*. The skills most in demand are higher order skills—better oral and written communication, problem-solving, teamwork, self-management, and computer literacy. In addition, individuals with training in key technical trades and occupations are in short supply.
- Employers do not look primarily to public workforce preparation institutions for assistance when providing training. For the largest segment of 'learners' in the state's economy—adults who are at the workplace and no longer associated with the public education system—skill improvement relies on the private sector. To increase the

amount of training that private firms provide, the State of Missouri must provide incentives that will lead to a net increase in total human capital investment. *But part of making public funds available to leverage training investments must include knowing the effectiveness of those funds.*

- Public workforce preparation programs are many in number, scattered among a variety of institutions, and disjointed in terms of missions and the various skills they succeed in imparting to students. Without a common way to measure their success, there is little clear and immediate accountability. Typically, the only measures we have now are enrollments, dollars per student or trainee, and other *process* measures. What's lacking are indicators of *performance*, indicators that could *drive the system towards a common goal.*

Missouri should use its Job Training Coordinating Council to spearhead the effort to define essential skills that all workers need in order to function well on the job. The performance of each user of public sector training or learning funds will be measured on the institution's ability to develop essential skills. Continued eligibility for public program funding would hinge on having a history of successful performance.

A performance measure for workforce preparation will meet these major challenges head-on:

- It will clearly communicate that graduates of publicly-supported workforce preparation programs from high school to customized training have achieved some definable measure of success, and provide a common way of assessing their achievements.
- It will tell employers and potential students which of the many different workforce preparation programs actually deliver on their promises. It will, over time, reveal the success or failures of individual institutions as well as programs. This creates, for the first time, a market-driven, customer responsive system.
- It will push a diverse group of public institutions and programs towards a common goal and develop a means for achieving that goal. In so doing, it coordinates without relying on coordination, and fosters innovation and flexibility in policy and practice.

There are two other important reasons for Missouri to develop a performance-based system. Last year, President Bush and the nation's governors set six broad goals for education. Missouri can be the first state to fully link its education goals to its workforce preparation efforts. By defining a clear measurable objective for workforce preparation, which includes traditional education and training programs, Missouri will not only be on its way to meeting the agreed mandate of the governors and the President, but can begin the work of making that goal a reality through the strategies and practices of the state's workforce training programs.

Second, Missouri must move now, so it can define its own strategy for workforce improvement. New federal legislation in adult education, the Carl Perkins Act, and the JOBs program will all require the establishment of performance measures, each to take effect at different times over the next three years. As is currently the case with JTPA, governors will retain some flexibility in defining these performance measures. It is to Missouri's advantage to anticipate these changes, define *its own* performance measures, and implement a clear strategy of performance-based workforce preparation rather than let its 'strategy' be patched together in response to federal guidelines.

It is important that Missouri's performance measure be developed to accurately reflect the needs of Missouri's workforce and employers. If the chief goal is to improve the job-related skill levels of all students and workers, as JMF's research suggests, then the performance mea-

sure should embody that goal. Missouri must thoughtfully develop its own performance measure based on a consensus about its chief goals in workforce preparation.

The Missouri Job Training Coordinating Council should have the responsibility of recommending a performance measure or set of measures for the whole workforce preparation system. The Council would be given one year to develop a performance measure or set of measures for the state's workforce preparation system. Annually thereafter, state workforce preparation agencies and programs are required to report to the governor and Missouri legislature on their programs in terms of the performance measures. Administrative and legislative budget decisions would be made in light of this information.

Who's affected, and how a performance system might work in Missouri. A performance standard should eventually be applied to all pieces of the workforce preparation system, and can be integrated into the current practice and programs of existing agencies and institutions.

- *K-12 education:* The Missouri Mastery Achievement Tests already test for key skills mastery in grades 2 through 10. The Key Skill Clusters include Science, Mathematics, Language Arts/Reading English, Mathematics, Social Studies/Civics. New 'basic skills' performance measures could be incorporated into this teaching and testing format, and ideally extended to a graduation requirement demonstrating a level of mastery in critical thinking, problem solving, organization of information, etc.
- *Vocational education*: A set of new basics skills performance measures could help focus the performance orientation being developed by the Department. The State Board of Education has made a priority of developing and validating occupational duties and a competency-based curricula for vocational programs statewide, but has not succeeded in fully implementing such a system yet. A set of demonstrable competencies in new basic skills could offer a uniform outline for these competencies, and drive the development of curricula and articulation locally. In addition, the current performance funding formula for secondary vocational education, which weights placements, enrollments, and response to labor market needs, could be modified to include success in developing competencies in 'new basics skills.'

  A recent report of the State Board of Education, *Missourians Prepared—Success for Every Student*, calls for the creation of performance measures.
- *Higher Education*: Working with the State Coordinating Board for Higher Education, Missouri institutions of higher education are required to develop institution-specific, 'performance indicators'. These indicators could be developed to include students achieving minimal competency in new basic skills. Performance in meeting 'new basics' could be made a condition of degree granting, and/or a prerequisite for moving into higher level coursework.
- *Customized Training for Business:* A diverse array of Missouri programs and institutions, including community colleges, vocational schools, and universities, contract with employers for specific training programs. While maintaining flexibility to meet particular employer needs is vital, a standard for measuring performance of these services is important for employers to be able to judge various service providers. A package of 'new basics' (particularly as it would be developed in large part by the private sector) may make an attractive marketing tool for public institutions in their recruitment of private sector clients. An assessment of 'new basics' competency, before and after any customized training program, would provide a useful prod to incorporate such a curriculum into all training programs. The most effective way of implementing this would be to encourage employers to specify performance in provision of 'new basic skills' as part a performance contract with the provider.

- *JTPA:* The JTPA system is currently geared to fund a variety of service providers who help eligible clients achieve job placement. The 'placement' performance indicator could be complemented by requiring training contractors to provide clients with demonstrable competency in 'new basic skills.' This could work to encourage continuing support, education and training after placement, often a key ingredient in an individual's ability to remain in job.
- *Missouri Futures:* As part of the new federally-mandated JOBs program, performance in educating, training, and placing welfare recipients in jobs will be assessed. Missouri should define its performance measures to include 'new basic skills' provision, and require agencies and providers delivering services to show that an individual has achieved a demonstrable competency.
- *Corrections:* The corrections system currently offers vocational programs and other rehabilitation programs for offenders. These vocational programs should incorporate the 'new basic skills' in their design, and report on performance in achieving demonstrable competency. More dramatically, sentencing and parole decisions would be predicated on demonstrating 'new basic skills ' competency.

Recommendation: Establish an administrative organization that assures the training system is market-driven and more responsive to employer needs. One of Missouri's overall objectives should be to create a well integrated and coordinated training and work related education system that is responsive to businesses' training and employment needs. There are a number of very general system wide changes that JMF is proposing Missouri implement to achieve the goals of workforce excellence.

To accomplish workforce excellence, a central forum must be developed to establish and coordinate overall state training and employment policy, to establish common performance standards and reporting requirements among the state agencies, to review of labor market trends in Missouri, and to review overall program performance in order to provide advice and direction to state administrators responsible for program administration.

In addition to establishing a well coordinated state policy and performance driven system, it is necessary to develop an automated communications network at the local level that provides the consumer with maximum information and easy access to any of the available training and support service resources in their community. In order to have an effective local training and employment system the various state and local agencies need to be able to provide comprehensive case management services; customers must be able to easily move from one training or support service to another without having to be subjected to more than one lengthy bureaucratic intake and assessment process. Counselors from various agencies must be able to case manage an individual and provide them with a continuum of services, and the potential for life long learning, without a great deal of bureaucratic red tape.

The following steps should be taken to create a public administrative capacity most conducive to delivering, timely, market-sensitive workforce training assistance:

- ***Recast the Missouri Job Training Coordinating Council as a 'human resource investment board'.*** The Council should oversee Missouri's job training, work related education, and employment system—to establish state policy, develop common performance standards, common reporting requirements among the various programs, and conduct comprehensive program reviews. The Council would serve as a state forum to discuss and formulate overall training and employment policy.

  Jurisdiction should include all programs funded under Wagner-Peyser, JTPA, the welfare to work initiative (Missouri Futures), and all work related education programs, includ-

ing the customized training initiatives, under the auspices of the Department of Elementary and Secondary Education and DED.

- ***Create a unified system for case management at the local level for job training and referral.*** The following initiatives would bring us closer to achieving a unified client delivery and management system:
  - Establish common geographic boundaries, common planning cycles, and an integrated planning process among all state agencies involved in the delivery of training, education, and employment services. Currently, common geographic boundaries do not exist among the state agencies. Without common boundaries, it is extremely difficult for managers to coordinate services, and therefore any kind of meaningful coordination is difficult to achieve.
  - Initiate a major customer training program for all line staff serving the public, including the employment service staff, JTPA staff, JOBS staff, and the appropriate vocational education and community college staff. This type of training is necessary to reorient government employees that their mission is to serve their customers; just getting them to think in terms of 'customers' will be a major change.
  - Develop a computer network linking the employment service, community colleges, vocational-technical schools, JTPA agencies and other training providers. This computer system should provide for each service delivery area (a) comprehensive information on all education and training opportunities available in a particular area (costs, duration, occupation, potential earnings), and (b) comprehensive job vacancy information (occupation, starting salary, benefits). This system must be very user friendly; it is meant for the customer (the resident seeking service) to be able to use very easily.

    In addition, a comprehensive, computerized intake, assessment, and referral system should be developed for human service agencies, training agencies, and job placement organizations to use to provide case management services.
  - Develop a common intake process for the unemployment insurance system, for the employment service, and for JTPA. Many of the federal reporting requirements for all three are very similar. One computerized intake form will go a long way to creating a good case management system; it will allow an individual to move among these systems easily, by having to complete only one application.
  - Create a system where there is one organization within a community where an individual to go to receive a comprehensive assessment of their aptitudes and skill levels. This information should be used to make adequate referrals to the appropriate education or training service, or it may just be that the individual wanted a current assessment of their skills to do some future lifelong learning. JFF recommends that either the employment service, community colleges, or vocational technical schools develop this capacity; the service should be available to all residents. It appears that vocational technical schools have started to develop this capacity in Missouri.

Conclusion

The Jobs for Missouri's Future program began almost two years ago with five basic premises: first, that workforce skills were fast becoming the single most critical factor in a state's economic development; second, that Missouri's economy was being affected by global and technical changes that demand more skills from all citizens; third, that meeting the workforce needs both today and tomorrow will require an unprecedented degree of collaboration between business, government, education, labor, and community leaders; fourth, within the governmental sector, long-term action would be required at both the state and local levels; and fifth, that policy solutions ought to account for the values held by citizens and workers in their home communities.

Every piece of research and each discussion with Missourians across the state confirmed those assumptions. The policy recommendations presented in this report are the kinds of initiatives that must be developed and supported by state and community leadership if Missouri is to make its current workforce preparation system meet the skill needs of the new economy.

Missouri must extend and accelerate these innovations and initiatives—identifying, then supporting the top priorities in workforce preparation at both the state and local levels.

Missouri *can* build better jobs by building higher skills, if we work together. None of us can hide from the global economic realities that are creating such tremendous change in the lives of Missouri businesses and families across the state. The challenge is for each citizen to join in this important effort.

PUBLICATIONS ORDER FORM

Jobs for the Future ✱ Publications and Papers	Quantity	Cost

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- ***Globally Competitive People*** (report to the Human Resource Committee, Mississippi Special Task Force on Economic Development Planning) _____ _____

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- ○ *Human Investment in Missouri* (interim report from Jobs for Missouri's Future) _____ _____
- ○ *Putting It All Together: The Capacity for Growth in Multi-County Regions of Mississippi*, Mississippi Special Task Force on Economic Development Planning _____ _____

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- ○ *Education and Training in the Colorado Economy* _____ _____
- ○ *Education and Training in the Indiana Economy* _____ _____
- ○ *Education and Training in the Missouri Economy* _____ _____
- ○ *Report on the Mississippi Employer Survey* _____ _____
- ○ Employer Field Work Interview Guide, Jobs for Missouri's Future _____ _____

CREATING REGIONAL AND COMMUNITY FORUMS

- ○ *Developing A Competitive Workforce in Colorado* (a community workbook) _____ _____
- ○ *Regional Congress Discussion Guide*, Jobs for Missouri's Future _____ _____
- ○ *Report on the Missouri Regional Congresses for Workforce Preparation* _____ _____
- ○ *Report on the Mississippi Regional Congresses for Workforce Preparation* _____ _____

EDUCATING THE PUBLIC

- ○ *Voices Across the Rockies: Coloradans Talk About Their Economy* _____ _____
- ○ *Voices from Across Indiana: Hoosiers Talk About Their Economy* _____ _____
- ○ *Voices from Across the 'Show Me' State: Missourians Talk About Their Economy* _____ _____
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- ○ Color xerox of GamePlan©, a career opportunity learning game _____ _____

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